OM protein - protein search, using sw model

Run on: November 2, 2004, 19:47:31 ; Search time 47.2823 Seconds
(without alignments)
371.762 Million cell updates/sec

Title: US-10-054-873-1
Perfect score: 260
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....QEFEEAYIPKEQKYSFLQNP 49

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_23Sep04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 260 | 100.0 | 49 | 2 | AAY42855 | Aay42855 Human gro |
| 2 | 260 | 100.0 | 92 | 2 | AAY42856 | Aay42856 Human gro |
| 3 | 260 | 100.0 | 107 | 2 | AAY42860 | Aay42860 hGH-mini- |
| 4 | 260 | 100.0 | 134 | 2 | AAW92265 | Aaw92265 Human ant |
| 5 | 260 | 100.0 | 140 | 1 | AAP91041 | Aap91041 Human gro |
| 6 | 260 | 100.0 | 150 | 2 | AAY42861 | Aay42861 Chimeric |
| 7 | 260 | 100.0 | 188 | 8 | ADI47330 | Adi47330 Plasmid p |
| 8 | 260 | 100.0 | 192 | 1 | AAP90129 | Aap90129 Human gro |
| 9 | 260 | 100.0 | 192 | 2 | AAW92264 | Aaw92264 Human ant |
| 10 | 260 | 100.0 | 192 | 8 | ADI47320 | Adi47320 Plasmid p |
| 11 | 260 | 100.0 | 192 | 8 | ADI47390 | Adi47390 Plasmid p |
| 12 | 260 | 100.0 | 192 | 8 | ADI47398 | Adi47398 Nmer ampl |
| 13 | 260 | 100.0 | 193 | 8 | ADI47354 | Adi47354 Plasmid p |
| 14 | 260 | 100.0 | 206 | 8 | ADI47384 | Adi47384 Plasmid p |
| 15 | 260 | 100.0 | 261 | 1 | AAP91299 | Aap91299 Human ner |
| 16 | 260 | 100.0 | 262 | 1 | AAP61033 | Aap61033 Human bet |
| 17 | 260 | 100.0 | 262 | 2 | AAR11740 | Aar11740 Human gro |
| 18 | 260 | 100.0 | 310 | 2 | AAR03255 | Aar03255 Fusion pr |
| 19 | 260 | 100.0 | 391 | 8 | ADI47363 | Adi47363 Plasmid p |
| 20 | 260 | 100.0 | 574 | 8 | ADI47344 | Adi47344 Plasmid p |
| 21 | 260 | 100.0 | 576 | 8 | ADI47351 | Adi47351 Plasmid p |
| 22 | 260 | 100.0 | 589 | 8 | ADI47365 | Adi47365 N+1mer am |
| 23 | 260 | 100.0 | 786 | 8 | ADI47367 | Adi47367 Nmer ampl |
| 24 | 260 | 100.0 | 810 | 8 | ADI47388 | Adi47388 Amplifica |
| 25 | 257 | 98.8 | 144 | 2 | AAR05313 | Aar05313 Segment o |
| 26 | 257 | 98.8 | 794 | 7 | ADF16507 | Adf16507 Human alb |
| 27 | 257 | 98.8 | 800 | 7 | ADF16216 | Adf16216 Human alb |
| 28 | 256 | 98.5 | 204 | 5 | ABB77327 | Abb77327 Human gro |
| 29 | 255 | 98.1 | 138 | 1 | AAP81226 | Aap81226 Sequence |
| 30 | 255 | 98.1 | 179 | 5 | AAM47922 | Aam47922 Human GH- |
| 31 | 255 | 98.1 | 191 | 1 | AAP60016 | Aap60016 Sequence |
| 32 | 255 | 98.1 | 191 | 2 | AAO20110 | Aao20110 Protein s |
| 33 | 255 | 98.1 | 191 | 2 | AAW71289 | Aaw71289 Human gro |
| 34 | 255 | 98.1 | 191 | 2 | AAY15809 | Aay15809 Primary a |
| 35 | 255 | 98.1 | 191 | 2 | AAY04397 | Aay04397 Mutant hu |
| 36 | 255 | 98.1 | 191 | 2 | AAY04396 | Aay04396 Natural h |
| 37 | 255 | 98.1 | 191 | 3 | AAY78425 | Aay78425 Human gro |
| 38 | 255 | 98.1 | 191 | 4 | AAO17485 | Aao17485 Human gro |
| 39 | 255 | 98.1 | 191 | 4 | AAO17486 | Aao17486 Human gro |
| 40 | 255 | 98.1 | 191 | 5 | ABG31865 | Abg31865 Mature hu |
| 41 | 255 | 98.1 | 191 | 5 | ABG31863 | Abg31863 Mature hu |
| 42 | 255 | 98.1 | 191 | 5 | ABG31859 | Abg31859 Mature hu |
| 43 | 255 | 98.1 | 191 | 5 | ABG31860 | Abg31860 Mature hu |
| 44 | 255 | 98.1 | 191 | 5 | ABG31866 | Abg31866 Mature hu |
| 45 | 255 | 98.1 | 191 | 5 | ABG31857 | Abg31857 Mature hu |

ALIGNMENTS

RESULT 1
AAY42855
ID AAY42855 standard; protein; 49 AA.
XX
AC AAY42855;
XX
DT 19-JAN-2000 (first entry)
XX
DE Human growth hormone (hGH) N-terminal fragment #1.
XX
KW Growth hormone; chaperone; intramolecular; insulin; precursor; folding;
KW conformation; chimeric protein; cleavable; recombinant; production;
KW yield.
XX
OS Homo sapiens.
XX
PN WO9950302-A1.
XX
PD 07-OCT-1999.
XX
PF 31-MAR-1998; 98WO-CN000052.
XX
PR 31-MAR-1998; 98WO-CN000052.
XX
PA (TONG-) TONGHUA GANTECH BIOTECHNOLOGY LTD.
XX
PI Gan Z;
XX
DR WPI; 1999-610839/52.
XX
PT New chimeric proteins containing human growth hormone fragment, used
PT particularly for the production of human insulin.
XX
PS Claim 4; Page 28; 46pp; English.
XX
CC This sequence represents an N-terminal fragment of human growth hormone
CC (hGH) which is a component of a chimeric protein, hGH-mini-proinsulin
CC (AAY42860). The hGH portion of the chimeric protein acts as an
CC intramolecular chaperone (IMC) for the insulin precursor, enabling it to
CC fold correctly. A cleavable peptide linker with a C-terminal Arg residue
CC (AAY42857) enables the hGH portion of the chimeric protein to be removed
CC after folding has taken place. Production of recombinant human insulin
CC via an hGH-proinsulin chimeric protein can provide human insulin with
CC correctly linked cysteine bridges with fewer necessary procedural steps,
CC and hence resulting in a higher yield of human insulin. The IMC sequences
CC not only protect insulin sequences from intracellular degradation by a
CC microorganism host, but also promote the folding of the fused insulin
CC precursor, facilitate the solubility of the fusion protein and decrease

CC the intermolecular interactions among the fusion proteins, thus allowing
CC folding of the fused insulin precursor at commercially useful high
CC concentrations. The procedural steps of cyanogen bromide cleavage,
CC oxidative sulphitolysis and related purification steps can thus be
CC eliminated, along with the use of high concentrations of mercaptan or the
CC use of hydrophobic absorbent resins
XX
SQ Sequence 49 AA;

Query Match 100.0%; Score 260; DB 2; Length 49;
Best Local Similarity 100.0%; Pred. No. 4.1e-25;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 2
AAY42856
ID AAY42856 standard; protein; 92 AA.
XX
AC AAY42856;
XX
DT 19-JAN-2000 (first entry)
XX
DE Human growth hormone (hGH) N-terminal fragment #2.
XX
KW Growth hormone; chaperone; intramolecular; insulin; precursor; folding;
KW conformation; chimeric protein; cleavable; recombinant; production;
KW yield.
XX
OS Homo sapiens.
XX
PN WO9950302-A1.
XX
PD 07-OCT-1999.
XX
PF 31-MAR-1998; 98WO-CN000052.
XX
PR 31-MAR-1998; 98WO-CN000052.
XX
PA (TONG-) TONGHUA GANTECH BIOTECHNOLOGY LTD.
XX
PI Gan Z;
XX
DR WPI; 1999-610839/52.
XX
PT New chimeric proteins containing human growth hormone fragment, used
PT particularly for the production of human insulin.
XX
PS Claim 5; Page 28; 46pp; English.
XX
CC This sequence represents an N-terminal fragment of human growth hormone
CC (hGH) which is a component of a chimeric protein (AAY42861) which also
CC contains a human insulin precursor (AAY42859). The hGH portion of the
CC chimeric protein acts as an intramolecular chaperone (IMC) for the
CC insulin precursor, enabling it to fold correctly. A cleavable peptide
CC linker with a C-terminal Arg residue (AAY42857) enables the hGH portion
CC of the chimeric protein to be removed after folding has taken place.
CC Production of recombinant human insulin via an hGH-proinsulin chimeric
CC protein can provide human insulin with correctly linked cysteine bridges
CC with fewer necessary procedural steps, and hence resulting in a higher
CC yield of human insulin. The IMC sequences not only protect insulin
CC sequences from intracellular degradation by a microorganism host, but
CC also promote the folding of the fused insulin precursor, facilitate the
CC solubility of the fusion protein and decrease the intermolecular
CC interactions among the fusion proteins, thus allowing folding of the
CC fused insulin precursor at commercially useful high concentrations. The
CC procedural steps of cyanogen bromide cleavage, oxidative sulphitolysis
CC and related purification steps can thus be eliminated, along with the use
CC of high concentrations of mercaptan or the use of hydrophobic absorbent
CC resins
XX
SQ Sequence 92 AA;

Query Match 100.0%; Score 260; DB 2; Length 92;
Best Local Similarity 100.0%; Pred. No. 8.1e-25;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 3
AAY42860
ID AAY42860 standard; protein; 107 AA.
XX
AC AAY42860;
XX
DT 19-JAN-2000 (first entry)
XX
DE hGH-mini-proinsulin chimeric protein.
XX
KW Insulin; precursor; growth hormone; chaperone; intramolecular; folding;
KW conformation; chimeric protein; cleavable; recombinant; production;
KW yield.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9950302-A1.
XX
PD 07-OCT-1999.
XX
PF 31-MAR-1998; 98WO-CN000052.
XX
PR 31-MAR-1998; 98WO-CN000052.
XX
PA (TONG-) TONGHUA GANTECH BIOTECHNOLOGY LTD.
XX
PI Gan Z;
XX
DR WPI; 1999-610839/52.
XX
PT New chimeric proteins containing human growth hormone fragment, used
PT particularly for the production of human insulin.
XX
PS Claim 13; Page 30; 46pp; English.
XX
CC This sequence represents a chimeric protein, hGH-mini-proinsulin. This
CC chimeric protein contains an N-terminal fragment of human growth hormone
CC (hGH) of the sequence given in AAY42855, a cleavable peptide linker
CC (AAY42857), and a human insulin precursor comprising insulin A and B
CC chains (AAY42859). The hGH portion of the chimeric protein acts as an
CC intramolecular chaperone (IMC) for the insulin precursor, enabling it to
CC fold correctly. The cleavable peptide linker has a C-terminal Arg residue
CC which enables the hGH portion of the chimeric protein to be removed after
CC folding has taken place. Production of recombinant human insulin via an
CC hGH-proinsulin chimeric protein can provide human insulin with correctly
CC linked cysteine bridges with fewer necessary procedural steps, and hence
CC resulting in a higher yield of human insulin. The IMC sequences not only
CC protect insulin sequences from intracellular degradation by a
CC microorganism host, but also promote the folding of the fused insulin
CC precursor, facilitate the solubility of the fusion protein and decrease
CC the intermolecular interactions among the fusion proteins, thus allowing
CC folding of the fused insulin precursor at commercially useful high
CC concentrations. The procedural steps of cyanogen bromide cleavage,
CC oxidative sulphitolysis and related purification steps can thus be
CC eliminated, along with the use of high concentrations of mercaptan or the
CC use of hydrophobic absorbent resins
XX
SQ Sequence 107 AA;

Query Match 100.0%; Score 260; DB 2; Length 107;

```
  Best Local Similarity   100.0%;  Pred. No. 9.6e-25;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 4
AAW92265
ID   AAW92265 standard; protein; 134 AA.
XX
AC   AAW92265;
XX
DT   08-JUN-1999  (first entry)
XX
DE   Human anti-angiogenic peptide 16K hGH Met-1Pro133.
XX
KW   Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW   growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW   placental vascularisation; pregnancy; treatment; angiogenic disease;
KW   tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW   arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW   wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW   granulation; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
KW   psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW   ulcer; leukaemia; reproductive disorder; contraceptive agent;
KW   gene therapy; pre-eclampsia; intrauterine growth retardation;
KW   placental dysfunction.
XX
OS   Homo sapiens.
XX
PN   WO9851323-A1.
XX
PD   19-NOV-1998.
XX
PF   12-MAY-1998;   98WO-US009691.
XX
PR   13-MAY-1997;   97US-0046394P.
XX
PA   (REGC ) UNIV CALIFORNIA.
XX
PI   Weiner RI,  Martial JA,  Struman I,  Taylor R;
XX
DR   WPI; 1999-045192/04.
DR   N-PSDB; AAX01707.
XX
PT   New anti-angiogenic peptides - comprise N-terminal fragments of human
PT   placental lactogen, human growth hormone, growth hormone variant or human
PT   prolactin.
XX
PS   Claim 4; Page 49-50; 87pp; English.
XX
CC   This invention describes novel human anti-angiogenic peptides derived
CC   from 10 to 150 consecutive amino acids selected from the N-terminal end
CC   of human placental lactogen (hPL), human growth hormone (hGH), growth
CC   hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
CC   capillary endothelial cell proliferation and organisation (ii) inhibit
CC   angiogenesis in chick chorioallantoic membrane and (iii) binds to at
CC   least one specific receptor which does not bind an intact full length
CC   hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC   diagnosing a probable abnormality of placental vascularisation during
CC   pregnancy. The peptides can be used for treating an angiogenic disease in
CC   a subject, for inhibiting tumour formation or growth in a patient or for
CC   modulating vascularisation of a patient's placenta. In particular, the
CC   peptides can be used for preventing or treating e.g. malignant tumours,
CC   angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC   arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC   delayed wound healing, proliferative retinopathy such as diabetic
CC   retinopathy, macular degeneration, granulations such as those occurring
CC   in haemophilic joints, inappropriate vascularisation in wound healing
CC   such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC   tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC   pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC   Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC   leukaemia, and reproductive disorders such as follicular and luteal cysts
CC   and choriocarcinoma. They can also be used as contraceptive agents. DNA
CC   encoding the peptides can be used in gene therapy. The measurement of
CC   abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC   can be used in assays for impairment of vascular development associated
CC   with pre-eclampsia, intrauterine growth retardation, and placental
CC   dysfunction
XX
SQ   Sequence 134 AA;

  Query Match             100.0%;  Score 260;  DB 2;  Length 134;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-24;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 5
AAP91041
ID   AAP91041 standard; protein; 140 AA.
XX
AC   AAP91041;
XX
DT   24-OCT-2003  (revised)
DT   14-DEC-1989  (first entry)
XX
DE   Human growth hormone segment.
XX
KW   Human growth hormone; fusion protein; thrombin; geriatric dementia;
KW   nervous disorders; human nerve factor.
XX
OS   Homo sapiens; (human).
XX
PN   EP329175-A.
XX
PD   23-AUG-1989.
XX
PF   17-FEB-1989;   89EP-00102795.
XX
PR   19-FEB-1988;   88JP-00035042.
XX
PA   (TOYJ ) TOSOH CORP.
XX
PI   Ohtsuka E;
XX
DR   WPI; 1989-243092/34.
XX
PT   New human nerve growth factor gene encoding fusion protein - having
PT   cleavage site for thrombin, useful for treating geriatric dementia, etc.
XX
PS   Disclosure; Page 21; 38pp; English.
XX
CC   Human growth hormone segment, used at the N-terminal of a fusion protein,
CC   which contains a thrombin recognition site, and human beta nerve growth
CC   factor (beta-NGF) at the C-terminal. Beta-NGF can be used to control
CC   geriatric dementia and other nervous disorders, and can be released from
CC   the fusion protein by incubation with thrombin (see AAN90577-8, AAP91034,
CC   AAP91299). (Updated on 24-OCT-2003 to standardise OS field)
XX
SQ   Sequence 140 AA;

  Query Match             100.0%;  Score 260;  DB 1;  Length 140;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-24;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
```

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RESULT 6
AAY42861
ID   AAY42861 standard; protein; 150 AA.
XX
AC   AAY42861;
XX
DT   19-JAN-2000  (first entry)
XX
DE   Chimeric protein, SEQ ID 7.
XX
KW   Insulin; precursor; growth hormone; chaperone; intramolecular; folding;
KW   conformation; chimeric protein; cleavable; recombinant; production;
KW   yield.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
PN   WO9950302-A1.
XX
PD   07-OCT-1999.
XX
PF   31-MAR-1998;   98WO-CN000052.
XX
PR   31-MAR-1998;   98WO-CN000052.
XX
PA   (TONG-) TONGHUA GANTECH BIOTECHNOLOGY LTD.
XX
PI   Gan Z;
XX
DR   WPI; 1999-610839/52.
XX
PT   New chimeric proteins containing human growth hormone fragment, used
PT   particularly for the production of human insulin.
XX
PS   Claim 14; Page 30-31; 46pp; English.
XX
CC   This sequence represents a chimeric protein, which contains an N-terminal
CC   fragment of human growth hormone (hGH) of the sequence given in AAY42856,
CC   a cleavable peptide linker (AAY42857), and a human insulin precursor
CC   comprising insulin A and B chains (AAY42859). The hGH portion of the
CC   chimeric protein acts as an intramolecular chaperone (IMC) for the
CC   insulin precursor, enabling it to fold correctly. The cleavable peptide
CC   linker has a C-terminal Arg residue which enables the hGH portion of the
CC   chimeric protein to be removed after folding has taken place. Production
CC   of recombinant human insulin via an hGH-proinsulin chimeric protein can
CC   provide human insulin with correctly linked cysteine bridges with fewer
CC   necessary procedural steps, and hence resulting in a higher yield of
CC   human insulin. The IMC sequences not only protect insulin sequences from
CC   intracellular degradation by a microorganism host, but also promote the
CC   folding of the fused insulin precursor, facilitate the solubility of the
CC   fusion protein and decrease the intermolecular interactions among the
CC   fusion proteins, thus allowing folding of the fused insulin precursor at
CC   commercially useful high concentrations. The procedural steps of cyanogen
CC   bromide cleavage, oxidative sulphitolysis and related purification steps
CC   can thus be eliminated, along with the use of high concentrations of
CC   mercaptan or the use of hydrophobic absorbent resins
XX
SQ   Sequence 150 AA;

  Query Match             100.0%;  Score 260;  DB 2;  Length 150;
  Best Local Similarity   100.0%;  Pred. No. 1.4e-24;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 7
ADI47330
ID   ADI47330 standard; protein; 188 AA.
XX
AC   ADI47330;
XX
DT   22-APR-2004  (first entry)
XX
DE   Plasmid p0A11A1 amino acid sequence SEQ ID NO:18.
XX
KW   multimer assembly; DNA sequence; amplification cassette;
KW   monomer sequence; restriction pair member; diagnostic protein;
KW   therapeutic protein.
XX
OS   Synthetic.
XX
PN   WO2004007687-A2.
XX
PD   22-JAN-2004.
XX
PF   16-JUL-2003; 2003WO-US022216.
XX
PR   16-JUL-2002; 2002US-0396466P.
XX
PA   (BUSS/) BUSSELL S.
XX
PI   Bussell S;
XX
DR   WPI; 2004-122926/12.
DR   N-PSDB; ADI47329.
XX
PT   Multimer assembly of DNA sequences comprising an amplification cassette
PT   having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT   terminus and 3' RPM at its 3' terminus.
XX
PS   Example 2; SEQ ID NO 18; 163pp; English.
XX
CC   The present invention describes a multimer assembly of DNA sequences (I)
CC   comprising at least one amplification cassette (AC) having at least one
CC   monomer sequence whose polymerisation is desired, and a 5' restriction
CC   pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC   one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC   sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC   cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC   RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC   therapeutic protein. In (I), the diagnostic protein and therapeutic
CC   protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC   ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC   factor, a DNA replication factor, an activator, a chaperonin, or an
CC   antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC   IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC   IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC   colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC   granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC   factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC   factor, fibroblast growth factors, vascular endothelial cell growth
CC   factor, epidermal growth factor, transforming growth factor-beta,
CC   transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC   oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC   factor, macrophage migration inhibiting factor, endostatin, or
CC   angiostatin. The present sequence is used in the exemplification of the
CC   present invention.
XX
SQ   Sequence 188 AA;

  Query Match             100.0%;  Score 260;  DB 8;  Length 188;
  Best Local Similarity   100.0%;  Pred. No. 1.8e-24;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 8
AAP90129
ID   AAP90129 standard; protein; 192 AA.
```

XX
AC AAP90129;
XX
DT 24-OCT-2003 (revised)
DT 25-MAR-2003 (revised)
DT 06-FEB-1996 (revised)
DT 01-NOV-1989 (first entry)
XX
DE Human growth hormone.
XX
KW Human growth hormone; fusion protein; recombinant vector.
XX
OS Homo sapiens; (Human).
XX
PN JP01144981-A.
XX
PD 07-JUN-1989.
XX
PF 02-DEC-1987; 87JP-00304937.
XX
PR 02-DEC-1987; 87JP-00304937.
XX
PA (WAKT ) WAKUNAGA SEIYAKU KK.
XX
DR WPI; 1989-209284/29.
DR N-PSDB; AAN90269.
XX
PT Recombinant vector contg. fused protein aminoacid coding - composed of
PT growth hormone or its polypeptide deriv. and foreign protein.
XX
PS Disclosure; Fig 1; 19pp; Japanese.
XX
CC The invention consists of a vector contg. a fusion protein which is
CC formed by ligating, downstream of a promoter, hGH or a deriv. (pref.
CC formed by subtstn. of Met-14 with Leu) and a foreign protein. Stability
CC of the vector in the host is greatly increased so the protein yield is
CC higher. (Updated on 25-MAR-2003 to correct PA field.) (Updated on 24-OCT-
CC 2003 to standardise OS field)
XX
SQ Sequence 192 AA;

Query Match 100.0%; Score 260; DB 1; Length 192;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 9
AAW92264
ID AAW92264 standard; protein; 192 AA.
XX
AC AAW92264;
XX
DT 08-JUN-1999 (first entry)
XX
DE Human anti-angiogenic peptide hGH Met-1Phe191.
XX
KW Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW granulation; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW ulcer; leukaemia; reproductive disorder; contraceptive agent;
KW gene therapy; pre-eclampsia; intrauterine growth retardation;
KW placental dysfunction.
XX
OS Homo sapiens.
XX
PN WO9851323-A1.
XX
PD 19-NOV-1998.
XX
PF 12-MAY-1998; 98WO-US009691.
XX
PR 13-MAY-1997; 97US-0046394P.
XX
PA (REGC ) UNIV CALIFORNIA.
XX
PI Weiner RI, Martial JA, Struman I, Taylor R;
XX
DR WPI; 1999-045192/04.
DR N-PSDB; AAX01706.
XX
PT New anti-angiogenic peptides - comprise N-terminal fragments of human
PT placental lactogen, human growth hormone, growth hormone variant or human
PT prolactin.
XX
PS Example 3; Page 49; 87pp; English.
XX
CC This invention describes novel human anti-angiogenic peptides derived
CC from 10 to 150 consecutive amino acids selected from the N-terminal end
CC of human placental lactogen (hPL), human growth hormone (hGH), growth
CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
CC capillary endothelial cell proliferation and organisation (ii) inhibit
CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
CC least one specific receptor which does not bind an intact full length
CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC diagnosing a probable abnormality of placental vascularisation during
CC pregnancy. The peptides can be used for treating an angiogenic disease in
CC a subject, for inhibiting tumour formation or growth in a patient or for
CC modulating vascularisation of a patient's placenta. In particular, the
CC peptides can be used for preventing or treating e.g. malignant tumours,
CC angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC delayed wound healing, proliferative retinopathy such as diabetic
CC retinopathy, macular degeneration, granulations such as those occurring
CC in haemophilic joints, inappropriate vascularisation in wound healing
CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC leukaemia, and reproductive disorders such as follicular and luteal cysts
CC and choriocarcinoma. They can also be used as contraceptive agents. DNA
CC encoding the peptides can be used in gene therapy. The measurement of
CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC can be used in assays for impairment of vascular development associated
CC with pre-eclampsia, intrauterine growth retardation, and placental
CC dysfunction
XX
SQ Sequence 192 AA;

Query Match 100.0%; Score 260; DB 2; Length 192;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 10
ADI47320
ID ADI47320 standard; protein; 192 AA.
XX
AC ADI47320;
XX
DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A0 amino acid sequence SEQ ID NO:8.
XX

KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR N-PSDB; ADI47319.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 1; SEQ ID NO 8; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 100.0%; Score 260; DB 8; Length 192;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 11
ADI47390
ID ADI47390 standard; protein; 192 AA.
XX
AC ADI47390;
XX
DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A51A amino acid sequence SEQ ID NO:78.

XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR P-PSDB; ADI47389.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 12; SEQ ID NO 78; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 100.0%; Score 260; DB 8; Length 192;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 12
ADI47398
ID ADI47398 standard; protein; 192 AA.
XX
AC ADI47398;
XX
DT 22-APR-2004 (first entry)
XX

DE Nmer amplification cassette amino acid sequence SEQ ID NO:86.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR P-PSDB; ADI47397.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Claim 115; SEQ ID NO 86; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 100.0%; Score 260; DB 8; Length 192;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 13
ADI47354
ID ADI47354 standard; protein; 193 AA.
XX
AC ADI47354;
XX
DT 22-APR-2004 (first entry)

XX
DE Plasmid p0A31A amino acid sequence SEQ ID NO:42.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR N-PSDB; ADI47353.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 7; SEQ ID NO 42; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 193 AA;

Query Match 100.0%; Score 260; DB 8; Length 193;
Best Local Similarity 100.0%; Pred. No. 1.8e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 14
ADI47384
ID ADI47384 standard; protein; 206 AA.
XX
AC ADI47384;
XX

DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A43A insert amino acid sequence SEQ ID NO:72.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR P-PSDB; ADI47383.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 11; SEQ ID NO 72; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 206 AA;

Query Match 100.0%; Score 260; DB 8; Length 206;
Best Local Similarity 100.0%; Pred. No. 2e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 15
AAP91299
ID AAP91299 standard; protein; 261 AA.
XX
AC AAP91299;
XX
DT 24-OCT-2003 (revised)
DT 14-DEC-1989 (first entry)
XX
DE Human nerve growth factor and human growth hormone fusion protein.
XX
KW Human nerve growth factor; fusion protein; thrombin; geriatric dementia;
KW nervous disorders; human growth hormone.
XX
OS Homo sapiens; (human).
XX
FH Key Location/Qualifiers
FT Region 1. .140
FT Region 141. .143
FT Region 144. .261
XX
PN EP329175-A.
XX
PD 23-AUG-1989.
XX
PF 17-FEB-1989; 89EP-00102795.
XX
PR 19-FEB-1988; 88JP-00035042.
XX
PA (TOYJ ) TOSOH CORP.
XX
PI Ohtsuka E;
XX
DR WPI; 1989-243092/34.
XX
PT New human nerve growth factor gene encoding fusion protein - having
PT cleavage site for thrombin, useful for treating geriatric dementia, etc.
XX
PS Claim 36; Page 31-32; 38pp; English.
XX
CC Fusion protein consisting of human growth hormone at the N-terminal end
CC (1st region), a 3 amino acid sequence representing thrombin recognition
CC site, and human beta nerve growth factor (beta-NGF) at the C-terminal.
CC Beta-NGF can be used to control geriatric dementia and other nervous
CC disorders, and can be released from the fusion protein by incubation with
CC thrombin (see AAN90577-8, AAP91034, AAP91041). (Updated on 24-OCT-2003 to
CC standardise OS field)
XX
SQ Sequence 261 AA;

Query Match 100.0%; Score 260; DB 1; Length 261;
Best Local Similarity 100.0%; Pred. No. 2.6e-24;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

Search completed: November 2, 2004, 20:11:38
Job time : 49.2823 secs

GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: November 2, 2004, 20:02:41 ; Search time 11.9336 Seconds
(without alignments)
272.306 Million cell updates/sec

Title: US-10-054-873-1
Perfect score: 260
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....QEFEEAYIPKEQKYSFLQNP 49

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 260 | 100.0 | 192 | 1 | US-08-093-383-1 | Sequence 1, Appli |
| 2 | 255 | 98.1 | 191 | 3 | US-09-284-878-5 | Sequence 5, Appli |
| 3 | 255 | 98.1 | 191 | 4 | US-09-462-941-1 | Sequence 1, Appli |
| 4 | 255 | 98.1 | 191 | 4 | US-09-554-451-1 | Sequence 1, Appli |
| 5 | 255 | 98.1 | 194 | 2 | US-08-383-621-4 | Sequence 4, Appli |
| 6 | 255 | 98.1 | 194 | 3 | US-08-459-906-4 | Sequence 4, Appli |
| 7 | 255 | 98.1 | 217 | 3 | US-08-589-028-10 | Sequence 10, Appl |
| 8 | 255 | 98.1 | 217 | 3 | US-08-784-582-10 | Sequence 10, Appl |
| 9 | 255 | 98.1 | 217 | 3 | US-08-785-271-10 | Sequence 10, Appl |
| 10 | 255 | 98.1 | 217 | 3 | US-08-759-628-11 | Sequence 11, Appl |
| 11 | 255 | 98.1 | 217 | 3 | US-09-284-878-1 | Sequence 1, Appli |
| 12 | 255 | 98.1 | 217 | 4 | US-09-929-918-9 | Sequence 9, Appli |
| 13 | 255 | 98.1 | 241 | 3 | US-09-424-620B-25 | Sequence 25, Appl |
| 14 | 255 | 98.1 | 245 | 4 | US-09-280-030-66 | Sequence 66, Appl |
| 15 | 255 | 98.1 | 274 | 3 | US-08-784-582-71 | Sequence 71, Appl |
| 16 | 255 | 98.1 | 360 | 3 | US-08-784-582-73 | Sequence 73, Appl |
| 17 | 250 | 96.2 | 191 | 4 | US-09-554-451-3 | Sequence 3, Appli |
| 18 | 249 | 95.8 | 191 | 3 | US-09-465-461-1 | Sequence 1, Appli |
| 19 | 249 | 95.8 | 217 | 1 | US-08-187-756C-4 | Sequence 4, Appli |
| 20 | 249 | 95.8 | 217 | 1 | US-08-469-486-51 | Sequence 51, Appl |
| 21 | 249 | 95.8 | 217 | 2 | US-08-469-658-51 | Sequence 51, Appl |
| 22 | 249 | 95.8 | 217 | 2 | US-08-710-324A-4 | Sequence 4, Appli |
| 23 | 249 | 95.8 | 217 | 4 | US-09-411-657-4 | Sequence 4, Appli |
| 24 | 248 | 95.4 | 191 | 3 | US-08-800-215C-16 | Sequence 16, Appl |
| 25 | 248 | 95.4 | 191 | 3 | US-08-800-215C-18 | Sequence 18, Appl |
| 26 | 248 | 95.4 | 191 | 3 | US-08-800-215C-20 | Sequence 20, Appl |
| 27 | 248 | 95.4 | 400 | 4 | US-09-420-819-37 | Sequence 37, Appl |
| 28 | 248 | 95.4 | 401 | 4 | US-09-420-819-36 | Sequence 36, Appl |
| 29 | 237 | 91.2 | 71 | 1 | US-08-314-586-24 | Sequence 24, Appl |
| 30 | 233 | 89.6 | 70 | 1 | US-07-920-519-24 | Sequence 24, Appl |
| 31 | 233 | 89.6 | 70 | 3 | US-08-115-753-26 | Sequence 26, Appl |
| 32 | 164.5 | 63.3 | 191 | 1 | US-08-468-824-8 | Sequence 8, Appli |
| 33 | 164 | 63.1 | 176 | 3 | US-08-791-728-1 | Sequence 1, Appli |
| 34 | 164 | 63.1 | 176 | 3 | US-08-990-774-1 | Sequence 1, Appli |
| 35 | 161.5 | 62.1 | 191 | 1 | US-07-963-331D-4 | Sequence 4, Appli |
| 36 | 159.5 | 61.3 | 190 | 1 | US-08-388-267C-2 | Sequence 2, Appli |
| 37 | 159.5 | 61.3 | 190 | 3 | US-09-277-720-2 | Sequence 2, Appli |
| 38 | 159.5 | 61.3 | 191 | 6 | 5210180-1 | Patent No. 5210180 |
| 39 | 159.5 | 61.3 | 193 | 1 | US-07-621-197C-2 | Sequence 2, Appli |
| 40 | 159.5 | 61.3 | 193 | 1 | US-08-363-982-2 | Sequence 2, Appli |
| 41 | 159.5 | 61.3 | 193 | 2 | US-08-383-621-1 | Sequence 1, Appli |
| 42 | 159.5 | 61.3 | 193 | 3 | US-08-459-906-1 | Sequence 1, Appli |
| 43 | 159.5 | 61.3 | 216 | 2 | US-09-105-651-1 | Sequence 1, Appli |
| 44 | 159.5 | 61.3 | 216 | 2 | US-09-105-651-3 | Sequence 3, Appli |
| 45 | 158 | 60.8 | 176 | 3 | US-08-791-728-2 | Sequence 2, Appli |

ALIGNMENTS

RESULT 1
US-08-093-383-1
; Sequence 1, Application US/08093383
; Patent No. 5489529
; GENERAL INFORMATION:
; APPLICANT: DeBoer, Herman A.
; APPLICANT: Heyneker, Herbert L.
; APPLICANT: Seeburg, Peter H.
; TITLE OF INVENTION: DNA for Expression of Bovine Growth Hormone
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/093,383
; FILING DATE: 14-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/619827
; FILING DATE: 28-NOV-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/198824
; FILING DATE: 05-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 06/632361
; FILING DATE: 19-JUL-1984
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 06/303687
; FILING DATE: 18-SEP-1981
; ATTORNEY/AGENT INFORMATION:
; NAME: Johnston, Sean A.
; REGISTRATION NUMBER: P35,910
; REFERENCE/DOCKET NUMBER: 46C4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-3562
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 192 amino acids
; TYPE: amino acid

;  TOPOLOGY: linear
US-08-093-383-1

Query Match 100.0%; Score 260; DB 1; Length 192;
Best Local Similarity 100.0%; Pred. No. 7.4e-30;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 2
US-09-284-878-5
; Sequence 5, Application US/09284878
; Patent No. 6342375
; GENERAL INFORMATION:
; APPLICANT: Olazaran, Martha Guerrero
; APPLICANT: Saldana, Hugo Barrera
; APPLICANT: Salvado, Jose Maria Viader
; TITLE OF INVENTION: Genetically Modified Methylotrophic P. pastoris Yeast for the
; TITLE OF INVENTION: Production and Secretion of the Human Growth Hormone
; FILE REFERENCE: 1829.0010000
; CURRENT APPLICATION NUMBER: US/09/284,878
; CURRENT FILING DATE: 1999-07-21
; PRIOR APPLICATION NUMBER: PCT/MX97/00033
; PRIOR FILING DATE: 1997-10-24
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 5
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-284-878-5

Query Match 98.1%; Score 255; DB 3; Length 191;
Best Local Similarity 100.0%; Pred. No. 3.9e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 48

RESULT 3
US-09-462-941-1
; Sequence 1, Application US/09462941
; Patent No. 6608183
; GENERAL INFORMATION:
; APPLICANT: Cox III, George N
; APPLICANT: Bolder Biotechnology, Inc.
; TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
; FILE REFERENCE: 4152-1-PUS
; CURRENT APPLICATION NUMBER: US/09/462,941
; CURRENT FILING DATE: 2000-01-14
; PRIOR APPLICATION NUMBER: 60/052,516
; PRIOR FILING DATE: 1997-07-14
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-462-941-1

Query Match 98.1%; Score 255; DB 4; Length 191;
Best Local Similarity 100.0%; Pred. No. 3.9e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 48

RESULT 4
US-09-554-451-1
; Sequence 1, Application US/09554451
; Patent No. 6680207
; GENERAL INFORMATION:
; APPLICANT: Jonathan Paul MURPHY
; Anthony ATKINSON
; TITLE OF INVENTION: Detection of Molecules in Samples
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pillsbury Winthrop, L.L.P.
; STREET: 1100 New York Ave., N.W.
; CITY: Washington
; STATE: D.C.
; COUNTRY: U.S.A.
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: MS Word
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/554,451
; FILING DATE: 15-May-2000
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/03449
; FILING DATE: No. 6680207ember 16, 1998
; APPLICATION NUMBER: GB 9723955.2
; FILING DATE: No. 6680207ember 14, 1997
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-554-451-1

Query Match 98.1%; Score 255; DB 4; Length 191;
Best Local Similarity 100.0%; Pred. No. 3.9e-29;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 48

RESULT 5
US-08-383-621-4
; Sequence 4, Application US/08383621
; Patent No. 5951972
; GENERAL INFORMATION:
; APPLICANT: Daley, Michael J.
; APPLICANT: Buckwalter, Brian L.
; APPLICANT: Cady, Susan M.
; APPLICANT: Shieh, Hong-Ming
; APPLICANT: Bohlen, Peter
; APPLICANT: Seddon, Andrew P.
; TITLE OF INVENTION: Stabilization Of Somatotropins And Other
; TITLE OF INVENTION: Proteins By Modification Of Cysteine Residues
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dr. Estelle J. Tsevdos
; STREET: 1937 West Main Street, P.O. Box 60
; CITY: Stamford
; STATE: Connecticut
; COUNTRY: U.S.A.
; ZIP: 06904-0060
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible

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;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/383,621
;      FILING DATE:  06-FEB-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/766,142
;      FILING DATE:  25-SEP-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Tsevdos, Estelle J.
;      REGISTRATION NUMBER:  31,145
;      REFERENCE/DOCKET NUMBER:  31,278-01
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  203-321-2756
;      TELEFAX:  203-321-2971
;      TELEX:  203-710-474-4059
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  194 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-383-621-4

  Query Match             98.1%;  Score 255;  DB 2;  Length 194;
  Best Local Similarity   100.0%;  Pred. No. 4e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db          4 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 51


RESULT 6
US-08-459-906-4
; Sequence 4, Application US/08459906
; Patent No. 6010999
;  GENERAL INFORMATION:
;    APPLICANT:  Daley, Michael J.
;    APPLICANT:  Buckwalter, Brian L.
;    APPLICANT:  Cady, Susan M.
;    APPLICANT:  Shieh, Hong-Ming
;    APPLICANT:  Bohlen, Peter
;    APPLICANT:  Seddon, Andrew P.
;    TITLE OF INVENTION:  Stabilization of Somatotropins and Other
;    TITLE OF INVENTION:  Proteins by Modification of Cysteine Residues
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  American Cyanamid Company
;      STREET:  One Cyanamid Plaza
;      CITY:  Wayne
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07470-8426
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/459,906
;      FILING DATE:  02-JUN-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Webster, Darryl L.
;      REGISTRATION NUMBER:  34,276
;      REFERENCE/DOCKET NUMBER:  31,278-03
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  201-831-3247
;      TELEFAX:  201-831-3305
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  194 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-459-906-4

  Query Match             98.1%;  Score 255;  DB 3;  Length 194;
  Best Local Similarity   100.0%;  Pred. No. 4e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db          4 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 51


RESULT 7
US-08-589-028-10
; Sequence 10, Application US/08589028
; Patent No. 6087129
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe
;    APPLICANT:  No. 6087129mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    TITLE OF INVENTION:  Recombinant Expression of Proteins From
;    TITLE OF INVENTION:  Secretory Cell Lines
;    NUMBER OF SEQUENCES:  50
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P. O. Box 4433
;      CITY:  Houston
;      STATE:  TX
;      COUNTRY:  USA
;      ZIP:  77210-4433
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/589,028
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  47,642
;      REFERENCE/DOCKET NUMBER:  UTSD:426\HYL
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (512) 418-3000
;      TELEFAX:  (512) 474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-589-028-10

  Query Match             98.1%;  Score 255;  DB 3;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 8
US-08-784-582-10
; Sequence 10, Application US/08784582
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; Patent No. 6110707
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe A.
;    APPLICANT:  No. 6110707mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    APPLICANT:  McGarry, Dennis
;    TITLE OF INVENTION:  RECOMBINANT EXPRESSION OF PROTEINS FROM
;    TITLE OF INVENTION:  SECRETORY CELL LINES
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P.O. Box 4433
;      CITY:  Houston
;      STATE:  Texas
;      COUNTRY:  USA
;      ZIP:  77210
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/784,582
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/028,427
;      FILING DATE:  15-OCT-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/589,028
;      FILING DATE:  19-JAN-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  37,642
;      REFERENCE/DOCKET NUMBER:  UTSD:514
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  512/418-3000
;      TELEFAX:  512/474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-784-582-10

  Query Match             98.1%;  Score 255;  DB 3;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 9
US-08-785-271-10
; Sequence 10, Application US/08785271
; Patent No. 6194176
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe A.
;    APPLICANT:  No. 6194176mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    TITLE OF INVENTION:  RECOMBINANT EXPRESSION OF PROTEINS FROM
;    TITLE OF INVENTION:  SECRETORY CELL LINES
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P.O. Box 4433
;      CITY:  Houston
;      STATE:  Texas
;      COUNTRY:  USA
;      ZIP:  77210
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/785,271
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/589,028
;      FILING DATE:  19-JAN-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  37,642
;      REFERENCE/DOCKET NUMBER:  UTSD:513
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  512/418-3000
;      TELEFAX:  512/474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-785-271-10

  Query Match             98.1%;  Score 255;  DB 3;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 10
US-08-759-628-11
; Sequence 11, Application US/08759628
; Patent No. 6225446
;  GENERAL INFORMATION:
;    APPLICANT:  Altmann, Scott W.
;    APPLICANT:  Rock, Fernando L.
;    APPLICANT:  Bazan, J. Fernando
;    APPLICANT:  Kastelein, Robert A.
;    TITLE OF INVENTION:  MUTATIONAL VARIANTS OF MAMMLIAN PROTEINS
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  DNAX Research Institute
;      STREET:  901 California Avenue
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1104
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/759,628
;      FILING DATE:  05-DEC-1996
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/008,574
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;      FILING DATE:  06-DEC-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Ching, Edwin P.
;      REGISTRATION NUMBER:  34,090
;      REFERENCE/DOCKET NUMBER:  DX0552Q
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-852-9196
;      TELEFAX:  415-496-1200
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  32..53
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  94..115
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  133..153
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  192..210
;      OTHER INFORMATION:  /note= "The peptides above are
;      OTHER INFORMATION:  depicted in Figure 1"
US-08-759-628-11

  Query Match             98.1%;  Score 255;  DB 3;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 11
US-09-284-878-1
; Sequence 1, Application US/09284878
; Patent No. 6342375
; GENERAL INFORMATION:
;  APPLICANT:  Olazaran, Martha Guerrero
;  APPLICANT:  Saldana, Hugo Barrera
;  APPLICANT:  Salvado, Jose Maria Viader
;  TITLE OF INVENTION:  Genetically Modified Methylotrophic P. pastoris Yeast for the
;  TITLE OF INVENTION:  Production and Secretion of the Human Growth Hormone
;  FILE REFERENCE:  1829.0010000
;  CURRENT APPLICATION NUMBER: US/09/284,878
;  CURRENT FILING DATE:  1999-07-21
;  PRIOR APPLICATION NUMBER:  PCT/MX97/00033
;  PRIOR FILING DATE:  1997-10-24
;  NUMBER OF SEQ ID NOS:  9
;  SOFTWARE:  PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 217
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-284-878-1

  Query Match             98.1%;  Score 255;  DB 3;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 12
US-09-929-918-9
; Sequence 9, Application US/09929918
; Patent No. 6773899
; GENERAL INFORMATION:
;  APPLICANT: Kordyum, Vitaliy A.
;  APPLICANT:  Chernykh, Svitlana I.
;  APPLICANT:  Slavchenko, Iryna Yu.
;  APPLICANT:  Vozianov, Oleksandr
;  TITLE OF INVENTION: PHAGE-DEPENDENT SUPER PRODUCTION OF
;  TITLE OF INVENTION:  BIOLOGICALLY ACTIVE PROTEIN AND PEPTIDES
;  FILE REFERENCE: PHAGE.006A
;  CURRENT APPLICATION NUMBER: US/09/929,918
;  CURRENT FILING DATE:  2001-08-15
;  PRIOR APPLICATION NUMBER: 09/318,288
;  PRIOR FILING DATE: 1999-05-25
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 9
;   LENGTH: 217
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-929-918-9

  Query Match             98.1%;  Score 255;  DB 4;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 4.6e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 13
US-09-424-620B-25
; Sequence 25, Application US/09424620B
; Patent No. 6391585
;  GENERAL INFORMATION:
;       APPLICANT: HANIL SYNTHETIC FIBER CO., LTD.
;                  JANG. Ki-Ryong
;                  MOON, Jae-Woong
;                  BAE, Cheon-Soon
;                  YANG, Doo-Suk
;                  LEE, Jee-Won
;                  SEONG, Baik-Lin
;       TITLE OF INVENTION: Process for preparing recombinant proteins using highly
;                           efficient expression vector from Sacharomyces cerevisiae
;       NUMBER OF SEQUENCES: 25
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: BACHMAN & LAPOINTE, P.C.
;            STREET: Suite 1201, 900 Chapel Street
;            CITY: New Haven
;            STATE: Connecticut
;            COUNTRY: U.S.A.
;            ZIP: 06510-2802
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Diskette, 3.5 inch, 1.44 Mb storage
;            COMPUTER: IBM
;            OPERATING SYSTEM: WINDOWS 95/98
;            SOFTWARE: MS WORD
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/424,620B
;            FILING DATE: 24-No. 6391585-1999
;  INFORMATION FOR SEQ ID NO: 25:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 241 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: PROTEIN
;       SEQUENCE DESCRIPTION: SEQ ID NO: 25:
US-09-424-620B-25

  Query Match             98.1%;  Score 255;  DB 3;  Length 241;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-29;
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 Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         51 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 98


RESULT 14
US-09-280-030-66
; Sequence 66, Application US/09280030A
; Patent No. 6506595
; GENERAL INFORMATION:
;  APPLICANT: Sato, Seiji
;  APPLICANT: Higashikuni, Naohiko
;  APPLICANT: Kudo, Toshiyuki
;  APPLICANT: Kondo, Masaaki
;  TITLE OF INVENTION: DNAS ENCODING NEW FUSION PROTEINS AND PROCESSES FOR
;  TITLE OF INVENTION: PREPARING USEFUL POLYPEPTIDES THROUGH EXPRESSION OF THE
;  TITLE OF INVENTION: DNAS
;  FILE REFERENCE: 382.1026
;  CURRENT APPLICATION NUMBER: US/09/280,030A
;  CURRENT FILING DATE: 1999-03-26
;  EARLIER APPLICATION NUMBER: JP10-87339/1998
;  EARLIER FILING DATE: 1998-03-31
;  NUMBER OF SEQ ID NOS: 66
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 66
;   LENGTH: 245
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: Designated is
;   OTHER INFORMATION: an amino acid sequence of MWPsp-MWPmp20-TEV-G-GH
US-09-280-030-66

  Query Match             98.1%;  Score 255;  DB 4;  Length 245;
  Best Local Similarity   100.0%;  Pred. No. 5.3e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         55 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 102


RESULT 15
US-08-784-582-71
; Sequence 71, Application US/08784582
; Patent No. 6110707
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe A.
;    APPLICANT:  No. 6110707mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    APPLICANT:  McGarry, Dennis
;    TITLE OF INVENTION:  RECOMBINANT EXPRESSION OF PROTEINS FROM
;    TITLE OF INVENTION:  SECRETORY CELL LINES
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P.O. Box 4433
;      CITY:  Houston
;      STATE:  Texas
;      COUNTRY:  USA
;      ZIP:  77210
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/784,582
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/028,427
;      FILING DATE:  15-OCT-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/589,028
;      FILING DATE:  19-JAN-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  37,642
;      REFERENCE/DOCKET NUMBER:  UTSD:514
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  512/418-3000
;      TELEFAX:  512/474-7577
;  INFORMATION FOR SEQ ID NO:  71:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  274 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-784-582-71

  Query Match             98.1%;  Score 255;  DB 3;  Length 274;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-29;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


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GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: November 2, 2004, 19:59:41 ; Search time 9.04059 Seconds
(without alignments)
521.495 Million cell updates/sec

Title: US-10-054-873-1
Perfect score: 260
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 255 | 98.1 | 217 | 1 | STHU | somatotropin 1 pre |
| 2 | 255 | 98.1 | 217 | 2 | I67410 | somatotropin - rhe |
| 3 | 228 | 87.7 | 217 | 1 | STHUV | somatotropin 2 pre |
| 4 | 228 | 87.7 | 256 | 1 | STHUV2 | somatotropin 2 pre |
| 5 | 213 | 81.9 | 212 | 2 | I67408 | chorionic somatoma |
| 6 | 213 | 81.9 | 217 | 2 | I53267 | chorionic somatoma |
| 7 | 205 | 78.8 | 217 | 2 | I67411 | somatotropin - rhe |
| 8 | 201 | 77.3 | 217 | 2 | I67409 | chorionic somatoma |
| 9 | 197 | 75.8 | 215 | 2 | A26449 | choriomammotropin |
| 10 | 197 | 75.8 | 217 | 1 | LCHUC | choriomammotropin |
| 11 | 197 | 75.8 | 217 | 2 | E32435 | choriomammotropin |
| 12 | 161.5 | 62.1 | 216 | 1 | STMS | somatotropin precu |
| 13 | 160.5 | 61.7 | 190 | 2 | PN0140 | somatotropin - sei |
| 14 | 159.5 | 61.3 | 190 | 1 | STHO | somatotropin - hor |
| 15 | 159.5 | 61.3 | 190 | 2 | JS0429 | somatotropin - Arc |
| 16 | 159.5 | 61.3 | 190 | 2 | JK0219 | somatotropin - Afr |
| 17 | 159.5 | 61.3 | 216 | 1 | STPG | somatotropin precu |
| 18 | 159.5 | 61.3 | 216 | 1 | STRT | somatotropin precu |
| 19 | 159.5 | 61.3 | 216 | 2 | I46145 | somatotropin precu |
| 20 | 159.5 | 61.3 | 216 | 2 | JC4632 | somatotropin precu |
| 21 | 159.5 | 61.3 | 216 | 2 | S49483 | somatotropin precu |
| 22 | 159.5 | 61.3 | 216 | 2 | B49159 | somatotropin - gol |
| 23 | 156.5 | 60.2 | 216 | 2 | A37782 | somatotropin precu |
| 24 | 155.5 | 59.8 | 190 | 1 | A61584 | somatotropin - alp |
| 25 | 150 | 57.7 | 216 | 2 | JC1514 | somatotropin precu |
| 26 | 148 | 56.9 | 191 | 2 | A60625 | somatotropin - gre |
| 27 | 146 | 56.2 | 163 | 2 | JN0387 | somatotropin - sei |
| 28 | 144 | 55.4 | 190 | 2 | S21750 | somatotropin - Rus |
| 29 | 144 | 55.4 | 216 | 2 | A60509 | somatotropin precu |
| 30 | 142.5 | 54.8 | 217 | 1 | STBO | somatotropin precu |
| 31 | 142.5 | 54.8 | 217 | 1 | STGT | somatotropin precu |
| 32 | 142.5 | 54.8 | 217 | 1 | STSH | somatotropin precu |
| 33 | 142.5 | 54.8 | 217 | 2 | S32682 | somatotropin - dom |
| 34 | 140 | 53.8 | 216 | 2 | S04929 | somatotropin precu |
| 35 | 132 | 50.8 | 190 | 2 | A56816 | somatotropin - bul |
| 36 | 132 | 50.8 | 215 | 2 | I51188 | somatotropin - bul |
| 37 | 128 | 49.2 | 195 | 2 | I51250 | somatotropin - bow |
| 38 | 128 | 49.2 | 215 | 2 | JS0037 | somatotropin precu |
| 39 | 122 | 46.9 | 199 | 2 | B32435 | choriomammotropin- |
| 40 | 116 | 44.6 | 183 | 2 | A60623 | somatotropin - blu |
| 41 | 98.5 | 37.9 | 87 | 4 | I67761 | EST/beta-Gal mutan |
| 42 | 97 | 37.3 | 200 | 2 | I51114 | growth hormone - g |
| 43 | 87 | 33.5 | 210 | 2 | S69263 | growth hormone II |
| 44 | 87 | 33.5 | 210 | 2 | S69262 | growth hormone I p |
| 45 | 87 | 33.5 | 210 | 2 | S02764 | somatotropin precu |

ALIGNMENTS

RESULT 1
STHU
somatotropin 1 precursor [validated] - human
N;Alternate names: growth hormone 1; hGH-N; pituitary somatotropin
N;Contains: growth hormone 5K peptide; somatotropin 1, long form; somatotropin 1, short
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: A93731; A32435; A93694; A94247; A90051; A93397; A93778; A91764; A90217; A9
R;DeNoto, F.M.; Moore, D.D.; Goodman, H.M.
Nucleic Acids Res. 9, 3719-3730, 1981
A;Title: Human growth hormone DNA sequence and mRNA structure: possible alternative spl
A;Reference number: A93731; MUID:82014939; PMID:6269091
A;Accession: A93731
A;Molecule type: DNA
A;Residues: 1-217 <DEN>
A;Cross-references: UNIPROT:P01241; GB:V00520
A;Note: the 20K short form somatotropin lacks residues 58-72 (32-46 in the active hormo
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: A32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: GB:J03071; NID:g183148; PIDN:AAA52549.1; PID:g183149
R;Roskam, W.; Rougeon, F.
Nucleic Acids Res. 7, 305-320, 1979
A;Title: Molecular cloning and nucleotide sequence of the human growth hormone structur
A;Reference number: A93694; MUID:80034477; PMID:386281
A;Accession: A93694
A;Molecule type: mRNA
A;Residues: 1-217 <ROS>
A;Cross-references: GB:V00519
A;Note: 35-Pro was also found
R;Martial, J.A.; Hallewell, R.A.; Baxter, J.D.; Goodman, H.M.
Science 205, 602-607, 1979
A;Title: Human growth hormone: complementary DNA cloning and expression in bacteria.
A;Reference number: A94247; MUID:79203293; PMID:377496
A;Accession: A94247
A;Molecule type: mRNA
A;Residues: 1-217 <MAR>
R;Li, C.H.; Dixon, J.S.; Liu, W.K.
Arch. Biochem. Biophys. 133, 70-91, 1969
A;Title: Human pituitary growth hormone. XIX. The primary structure of the hormone.
A;Reference number: A90048; MUID:69289202; PMID:5810834
A;Contents: annotation
R;Li, C.H.; Dixon, J.S.
Arch. Biochem. Biophys. 146, 233-236, 1971
A;Title: Human pituitary growth hormone. XXXII. The primary structure of the hormone: r
A;Reference number: A90051; MUID:72143935; PMID:5144027
A;Accession: A90051
A;Molecule type: protein

A;Residues: 27-94;96-217 <LIC>
R;Niall, H.D.
Nature New Biol. 230, 90-91, 1971
A;Title: Revised primary structure for human growth hormone.
A;Reference number: A93397; MUID:71139765; PMID:5279046
A;Accession: A93397
A;Molecule type: protein
A;Residues: 27-51 <NIA>
R;Niall, H.D.; Hogan, M.L.; Sauer, R.; Rosenblum, I.Y.; Greenwood, F.C.
Proc. Natl. Acad. Sci. U.S.A. 68, 866-869, 1971
A;Title: Sequences of pituitary and placental lactogenic and growth hormones: evolution
A;Reference number: A93778; MUID:71153968; PMID:5279528
A;Accession: A93778
A;Molecule type: protein
A;Residues: 119-120;157-159 <NI2>
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.,
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Contents: annotation; somatotropin revision
R;Bewley, T.A.; Dixon, J.S.; Li, C.H.
Int. J. Pept. Protein Res. 4, 281-287, 1972
A;Title: Sequence comparison of human pituitary growth hormone, human chorionic somatoma
A;Reference number: A91764; MUID:73092028; PMID:4675454
A;Accession: A91764
A;Molecule type: protein
A;Residues: 27-217 <BEW>
R;Lewis, U.J.; Bonewald, L.F.; Lewis, L.J.
Biochem. Biophys. Res. Commun. 92, 511-516, 1980
A;Title: The 20,000-dalton variant of human growth hormone: location of the amino acid d
A;Reference number: A90217; MUID:80130196; PMID:7356479
A;Contents: somatotropin, 20K short variant
A;Accession: A90217
A;Molecule type: protein
A;Residues: 46-57;73-80 <LEW>
R;Chapman, G.E.; Rogers, K.M.; Brittain, T.; Bradshaw, R.A.; Bates, O.J.; Turner, C.; Ca
J. Biol. Chem. 256, 2395-2401, 1981
A;Title: The 20,000 molecular weight variant of human growth hormone. Preparation and sc
A;Reference number: A92311; MUID:81117361; PMID:7462247
A;Contents: somatotropin, 20K short variant
A;Accession: A92311
A;Molecule type: protein
A;Residues: 27-57;73-79 <CHA>
R;Singh, R.N.P.; Seavey, B.K.; Lewis, L.J.; Lewis, U.J.
J. Protein Chem. 2, 425-436, 1983
A;Title: Human growth hormone peptide 1-43: isolation from pituitary glands.
A;Reference number: A61466
A;Accession: A61466
A;Molecule type: protein
A;Residues: 27-69 <SIN>
A;Note: growth hormone 5K peptide has insulin potentiating activity; its physiological p
R;Robson, V.M.J.; Rae, I.D.; NG, F.
Biol. Chem. Hoppe-Seyler 371, 423-431, 1990
A;Title: Identification of the aspartimide structure in a previously-reported peptide.
A;Reference number: S09685; MUID:90334745; PMID:2378679
A;Accession: S09685
A;Molecule type: protein
A;Residues: 27-34,'L',36-47 <ROB>
R;de Vos, A.M.; Ultsch, M.; Kossiakoff, A.A.
Science 255, 306-312, 1992
A;Title: Human growth hormone and extracellular domain of its receptor: crystal structur
A;Reference number: A41728; MUID:92196577; PMID:1549776
A;Contents: annotation; X-ray crystallography, 2.8 angstroms
A;Note: the structure of the complex with growth hormone receptor is described
R;Gray, G.L.; Baldridge, J.S.; McKeown, K.S.; Heyneker, H.L.; Chang, C.N.
Gene 39, 247-254, 1985
A;Title: Periplasmic production of correctly processed human growth hormone in Escherich
A;Reference number: I41126; MUID:86137393; PMID:3912261
A;Accession: I84549
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-26 <RES>
A;Cross-references: GB:M14398; NID:g183158; PIDN:AAA52554.1; PID:g183159

C;Comment: The gene for this hormone is transcribed only in somatotrophic cells of the a
C;Comment: About 90% of somatotropin is the 22K long form.
C;Genetics:
A;Gene: GDB:GH1
A;Cross-references: GDB:119982; OMIM:139250
A;Map position: 17q23.1-17q23.3
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; hormone; pituitary
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-217/Product: somatotropin 1, long form #status experimental <SOL>
F;27-69/Product: growth hormone 5K peptide #status experimental <5KP>
F;27-57,73-217/Product: somatotropin 1, short form #status experimental <SOS>
F;79-191,208-215/Disulfide bonds: #status experimental

  Query Match 98.1%; Score 255; DB 1; Length 217;
  Best Local Similarity 100.0%; Pred. No. 2.7e-24;
  Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
Db 27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74

RESULT 2
I67410
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67410; A05094
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementa
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67410
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:P33093; GB:L16556; NID:g293114; PIDN:AAA18842.1; PID:g29311
R;Li, C.H.; Chung, D.; Lahm, H.W.; Stein, S.
Arch. Biochem. Biophys. 245, 287-291, 1986
A;Title: The primary structure of monkey pituitary growth hormone.
A;Reference number: A05094; MUID:86129460; PMID:3080959
A;Accession: A05094
A;Molecule type: protein
A;Residues: 27-99,'Q',101-178,'D',180-217 <LIC>
A;Note: the monkey species is not identified in the reference
R;Raben, M.S.
Science 125, 883-884, 1957
A;Title: Preparation of growth hormone from pituitaries of man and monkey.
A;Reference number: A44774
A;Contents: annotation; identification of source organism
C;Superfamily: prolactin

  Query Match 98.1%; Score 255; DB 2; Length 217;
  Best Local Similarity 100.0%; Pred. No. 2.7e-24;
  Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
Db 27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74

RESULT 3
STHUV
somatotropin 2 precursor - human
N;Alternate names: growth hormone 2; growth hormone variant; hGH-V; placental somatotrc
N;Contains: somatotropin 2, long splice form; somatotropin 2, short splice form
C;Species: Homo sapiens (man)
C;Date: 17-Dec-1982 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: D32435; B28072; A01511; I52104; A60711
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P

Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: D32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:P01242; GB:J03071; NID:g183148; PIDN:AAA52552.1; PID:g183152
R;Cooke, N.E.; Ray, J.; Emery, J.G.; Liebhaber, S.A.
J. Biol. Chem. 263, 9001-9006, 1988
A;Title: Two distinct species of human growth hormone-variant mRNA in the human placenta
A;Reference number: A92725; MUID:88243769; PMID:3379057
A;Accession: B28072
A;Molecule type: mRNA
A;Residues: 1-217 <COO>
R;Seeburg, P.H.
DNA 1, 239-249, 1982
A;Title: The human growth hormone gene family: nucleotide sequences show recent divergen
A;Reference number: A01511; MUID:83182010; PMID:7169009
A;Accession: A01511
A;Molecule type: DNA
A;Residues: 1-34,'P',36-217 <SEE>
R;Igout, A.; Scippo, M.L.; Frankenne, F.; Hennen, G.
Arch. Int. Physiol. Biochim. 96, 63-67, 1988
A;Title: Cloning and nucleotide sequence of placental hGH-V cDNA.
A;Reference number: I52104; MUID:89024984; PMID:2460050
A;Accession: I52104
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <IGO>
A;Cross-references: GB:M38451; NID:g183179; PIDN:AAA35891.1; PID:g183180
R;Frankenne, F.; Scippo, M.L.; Van Beeumen, J.; Igout, A.; Hennen, G.
J. Clin. Endocrinol. Metab. 71, 15-18, 1990
A;Title: Identification of placental human growth hormone as the growth hormone-V gene e
A;Reference number: A60711; MUID:90317018; PMID:2196278
A;Accession: A60711
A;Molecule type: protein
A;Residues: 27-44;46-57 <FRA>
A;Experimental source: tissue placenta
A;Note: partial glycosylation was demonstrated by lectin binding
C;Comment: This gene is expressed by the placenta.
C;Genetics:
A;Gene: GDB:GH2
A;Cross-references: GDB:119983; OMIM:139240
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; glycoprotein; hormone; placenta
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-217/Product: somatotropin 2, long splice form #status predicted <SOL>
F;27-57,73-217/Product: somatotropin 2, short splice form #status predicted <SOS>
F;79-191,208-215/Disulfide bonds: #status predicted
F;166/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 87.7%; Score 228; DB 1; Length 217;
Best Local Similarity 91.7%; Pred. No. 6.1e-21;
Matches 44; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP
Db 27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74

RESULT 4
STHUV2
somatotropin 2 precursor, splice form 2 - human
N;Alternate names: growth hormone variant-2; placental somatotropin form 2
C;Species: Homo sapiens (man)
C;Date: 30-Sep-1989 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: A28072
R;Cooke, N.E.; Ray, J.; Emery, J.G.; Liebhaber, S.A.
J. Biol. Chem. 263, 9001-9006, 1988
A;Title: Two distinct species of human growth hormone-variant mRNA in the human placenta
A;Reference number: A92725; MUID:88243769; PMID:3379057
A;Accession: A28072
A;Molecule type: mRNA
A;Residues: 1-256 <COO>
A;Cross-references: UNIPROT:P01242
A;Note: an alternative splice junction for intron 4 is used
C;Genetics:
A;Gene: GDB:GH2
A;Cross-references: GDB:119983; OMIM:139240
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; hormone; placenta
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-256/Product: somatotropin 2 splice form 2 #status predicted <MAT>

Query Match 87.7%; Score 228; DB 1; Length 256;
Best Local Similarity 91.7%; Pred. No. 7.3e-21;
Matches 44; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP
Db 27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74

RESULT 5
I67408
chorionic somatomammotropin-2 - rhesus macaque (fragment)
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67408
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementa
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67408
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-212 <RES>
A;Cross-references: UNIPROT:Q07368; GB:L16553; NID:g293110; PIDN:AAA18840.1; PID:g293111
C;Superfamily: prolactin

Query Match 81.9%; Score 213; DB 2; Length 212;
Best Local Similarity 78.7%; Pred. No. 4.3e-19;
Matches 37; Conservative 9; Mismatches 1; Indels 0; Gaps 0;

Qy 3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
PSVPLSRLFDHAMIQAHRLHQLAFDTYQEFEEAYIPKEKKHSLMENP 69

RESULT 6
I53267
chorionic somatomammotropin-1 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I53267
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I53267
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07367; GB:L16552; NID:g293108; PIDN:AAA18839.1; PID:g293109
C;Superfamily: prolactin

Query Match 81.9%; Score 213; DB 2; Length 217;
Best Local Similarity 78.7%; Pred. No. 4.5e-19;
Matches 37; Conservative 9; Mismatches 1; Indels 0; Gaps 0;

Qy 3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

```
Db          28 PSVPLSRLFDHAMIQAHRLHQLAFDTYQEFEEAYIPKEKKHSLMENP 74


RESULT 7
I67411
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67411
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67411
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07370; GB:L16555; NID:g293116; PIDN:AAA20180.1; PID:g293117
C;Superfamily: prolactin

  Query Match             78.8%;  Score 205;  DB 2;  Length 217;
  Best Local Similarity   79.2%;  Pred. No. 4.4e-18;
  Matches   38;  Conservative    5;  Mismatches    5;  Indels    0;  Gaps    0;

Qy           2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
               ||||||| ||: |: ||| ||:|||||| :||||||||||||||:||
Db          27 FPTIPLSWLFNTAVFRAHHLHKLAFDTYPKFEEAYIPKEQKYSFLRNP 74


RESULT 8
I67409
chorionic somatomammotropin-3 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67409
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67409
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07369; GB:L16554; NID:g293112; PIDN:AAA18841.1; PID:g293113
C;Superfamily: prolactin

  Query Match             77.3%;  Score 201;  DB 2;  Length 217;
  Best Local Similarity   74.5%;  Pred. No. 1.4e-17;
  Matches   35;  Conservative    8;  Mismatches    4;  Indels    0;  Gaps    0;

Qy           3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
               |::|||||||| |::|||||||||||||||: |||||:|:| : ||
Db          28 PSVPLSRLFDNIMMQAHRLHQLAFDTYQEFEKTYIPKEKKHSLMGNP 74


RESULT 9
A26449
choriomammotropin precursor (allele hCS-3) - human
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 09-Jul-2004
C;Accession: A26449
R;Hirt, H.; Kimelman, J.; Birnbaum, M.J.; Chen, E.Y.; Seeburg, P.H.; Eberhardt, N.L.; Ba
DNA 6, 59-70, 1987
A;Title: The human growth hormone gene locus: structure, evolution, and allelic variatic
A;Reference number: A26449; MUID:87161235; PMID:3030680
A;Accession: A26449
A;Molecule type: DNA
A;Residues: 1-215 <HIR>
A;Cross-references: UNIPROT:P01243
C;Superfamily: prolactin
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-215/Product: choriomammotropin, hCS-3 allele #status predicted <MAT>

  Query Match             75.8%;  Score 197;  DB 2;  Length 215;
  Best Local Similarity   80.0%;  Pred. No. 4.3e-17;
  Matches   36;  Conservative    5;  Mismatches    4;  Indels    0;  Gaps    0;

Qy           4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
               |:|||||||:|||:||| |||| |||||||| ||||:|||||| :
Db          29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHD 73


RESULT 10
LCHUC
choriomammotropin A precursor [validated] - human
N;Alternate names: chorionic somatomammotropin 1; placental lactogen
C;Species: Homo sapiens (man)
C;Date: 23-Oct-1981 #sequence_revision 23-Oct-1981 #text_change 09-Jul-2004
C;Accession: C32435; A94422; I52342; A93833; A93192; A90054; A94427; A61283; I55229; I59
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: C32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:P01243; GB:J03071; NID:g183148; PIDN:AAA52551.1; PID:g183151
R;Goodman, H.M.; DeNoto, F.; Fiddes, J.C.; Hallewell, R.A.; Page, G.S.; Smith, S.; Tisch
in Mobilization and Reassembly of Genetic Information, Scott, W.A., Werner, R., Joseph,
A;Reference number: A94422
A;Accession: A94422
A;Molecule type: mRNA
A;Residues: 1-217 <GOO>
R;Tanaka, M.; Masuda, N.; Watahiki, M.; Yamakawa, M.; Shimizu, K.; Nagai, J.; Nakashima,
Biochem. Int. 16, 287-292, 1988
A;Title: cDNA cloning of human chorionic somatomammotropin-1 mRNA whose transcription wa
A;Reference number: I52342; MUID:88209096; PMID:2835050
A;Accession: I52342
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-3 <TAN>
A;Cross-references: GB:M35419; NID:g506822
R;Sherwood, L.M.; Burstein, Y.; Schechter, I.
Proc. Natl. Acad. Sci. U.S.A. 76, 3819-3823, 1979
A;Title: Primary structure of the NH-2-terminal extra piece of the precursor to human pl
A;Reference number: A93833; MUID:80034970; PMID:291043
A;Accession: A93833
A;Molecule type: protein
A;Residues: 1,3-26 <SHE>
A;Experimental source: placenta
R;Shine, J.; Seeburg, P.H.; Martial, J.A.; Baxter, J.D.; Goodman, H.M.
Nature 270, 494-499, 1977
A;Title: Construction and analysis of recombinant DNA for human chorionic somatomammotr
A;Reference number: A93192; MUID:78071761; PMID:593368
A;Accession: A93192
A;Molecule type: DNA
A;Residues: 50-217 <SHI>
A;Experimental source: placenta
R;Li, C.H.; Dixon, J.S.; Chung, D.
Arch. Biochem. Biophys. 155, 95-110, 1973
A;Title: Amino acid sequence of human chorionic somatomammotropin.
A;Reference number: A90054; MUID:73201971; PMID:4712450
A;Accession: A90054
A;Molecule type: protein
A;Residues: 27-217 <LIC>
A;Experimental source: placenta
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Accession: A94427
A;Molecule type: protein
A;Residues: 27-217 <NIA>
A;Experimental source: placenta
R;Nic A Bhaird, N.; Tipton, K.F.
```

Biochem. Soc. Trans. 19, 20S, 1991
A;Title: Catechol-O-methyltransferase from human placenta: purification and some propert
A;Reference number: A61283; MUID:91244006; PMID:2037148
A;Accession: A61283
A;Molecule type: protein
A;Residues: 27-46 <NIC>
A;Note: choriomammotropin apparently copurified with placental catechol-O-methyltransfer
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 233, 59-61, 1971
A;Title: Amino-acid sequence of human placental lactogen.
A;Reference number: A93401; MUID:72016313; PMID:5286363
A;Contents: annotation
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 235, 64, 1972
A;Reference number: A93405
A;Contents: annotation
R;Schneider, A.B.; Kowalski, K.; Russell, J.; Sherwood, L.M.
J. Biol. Chem. 254, 3782-3787, 1979
A;Title: Identification of the interchain disulfide bonds of dimeric human placental lac
A;Reference number: A92251; MUID:79173081; PMID:438159
A;Contents: annotation; dimeric disulfide bonds
R;Selby, M.J.; Barta, A.; Baxter, J.D.; Bell, G.I.; Eberhardt, N.L.
J. Biol. Chem. 259, 13131-13138, 1984
A;Title: Analysis of a major human chorionic somatomammotropin gene. Evidence for two fu
A;Reference number: I55229; MUID:85030426; PMID:6208192
A;Accession: I55229
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-217 <RES>
A;Cross-references: GB:K02401; NID:g181120; PIDN:AAA52115.1; PID:g181121
R;Seeburg, P.H.; Shine, J.; Martial, J.A.; Ullrich, A.; Goodman, H.
Trans. Assoc. Am. Physicians 90, 109-116, 1977
A;Title: Nucleotide sequence of a human gene coding for a polypeptide hormone.
A;Reference number: I59658; MUID:78160787; PMID:611657
A;Accession: I59658
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 160-217 <RE2>
A;Cross-references: GB:M25118; NID:g181124; PIDN:AAA35721.1; PID:g181125
C;Genetics:
A;Gene: GDB:CSH1
A;Cross-references: GDB:119084; OMIM:150200
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: hormone; placenta
F;1-26/Domain: signal sequence #status experimental <SIG>
F;27-217/Product: choriomammotropin A #status experimental <MAT>
F;79-191/Disulfide bonds: #status experimental
F;208-215/Disulfide bonds: (in monomeric form) #status experimental
F;208/Disulfide bonds: interchain (to 215 in dimeric form) #status experimental
F;215/Disulfide bonds: interchain (to 208 in dimeric form) #status experimental

Query Match 75.8%; Score 197; DB 1; Length 217;
Best Local Similarity 80.0%; Pred. No. 4.4e-17;
Matches 36; Conservative 5; Mismatches 4; Indels 0; Gaps 0;

Qy 4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
|:|||||||:|||:||| |||| |||||||| |||||:|||||| :
Db 29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHD 73

RESULT 11
E32435
choriomammotropin B precursor - human
N;Alternate names: chorionic somatomammotropin 2
C;Species: Homo sapiens (man)
C;Date: 29-Dec-1989 #sequence_revision 29-Dec-1989 #text_change 09-Jul-2004
C;Accession: E32435
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: E32435
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:Q14407; GB:J03071; NID:g183148; PIDN:AAA52553.1; PID:g1831
C;Genetics:
A;Gene: GDB:CSH2
A;Cross-references: GDB:119813; OMIM:118820
A;Map position: 17q22-17q24
C;Superfamily: prolactin

Query Match 75.8%; Score 197; DB 2; Length 217;
Best Local Similarity 80.0%; Pred. No. 4.4e-17;
Matches 36; Conservative 5; Mismatches 4; Indels 0; Gaps 0;

Qy 4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
|:|||||||:|||:||| |||| |||||||| |||||:|||||| :
Db 29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHD 73

RESULT 12
STMS
somatotropin precursor - mouse
N;Alternate names: growth hormone
C;Species: Mus musculus (house mouse)
C;Date: 30-Sep-1987 #sequence_revision 30-Sep-1987 #text_change 09-Jul-2004
C;Accession: B23911
R;Linzer, D.I.H.; Talamantes, F.
J. Biol. Chem. 260, 9574-9579, 1985
A;Title: Nucleotide sequence of mouse prolactin and growth hormone mRNAs and expression
A;Reference number: A92548; MUID:85261358; PMID:2991252
A;Accession: B23911
A;Molecule type: mRNA
A;Residues: 1-216 <LIN>
A;Cross-references: UNIPROT:P06880; GB:X02891; GB:K03232; NID:g51067; PIDN:CAA26650.1;
C;Superfamily: prolactin
C;Keywords: anterior pituitary; growth factor; hormone
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-216/Product: somatotropin #status predicted <STN>
F;78-189,206-214/Disulfide bonds: #status predicted

Query Match 62.1%; Score 161.5; DB 1; Length 216;
Best Local Similarity 68.1%; Pred. No. 1.1e-12;
Matches 32; Conservative 6; Mismatches 8; Indels 1; Gaps 1;

Qy 2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
|| :||| || ||:||| ||||| |||:||| |||||: |:|| :||
Db 27 FPAMPLSSLFSNAVLRAQHLHQLAADTYKEFERAYIPEGQRYS-IQN 72

RESULT 13
PN0140
somatotropin - sei whale
N;Alternate names: growth hormone
C;Species: Balaenoptera borealis (sei whale)
C;Date: 07-May-1993 #sequence_revision 07-May-1993 #text_change 09-Jul-2004
C;Accession: PN0140
R;Yudaev, N.A.; Pankov, Y.A.; Bulatov, A.A.; Osipova, T.A.
Biokhimiia 47, 1059-1069, 1982
A;Title: Amino acid sequence of seiwhale somatotropin.
A;Reference number: PN0140; MUID:83000569; PMID:7115813
A;Accession: PN0140
A;Molecule type: protein
A;Residues: 1-190 <YUD>
A;Cross-references: UNIPROT:P33092
A;Note: article in Russian with English abstract
C;Superfamily: prolactin
C;Keywords: growth factor; hormone
F;52-163,180-188/Disulfide bonds: #status predicted

Query Match 61.7%; Score 160.5; DB 2; Length 190;
Best Local Similarity 68.1%; Pred. No. 1.3e-12;
Matches 32; Conservative 6; Mismatches 8; Indels 1; Gaps 1;

```
Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
              || :||| || ||:|||  ||:|| |||:||| ||||: |:| ||||
Db          1 FPAMPLSSLFANAVLRAQHLHELAADTYKEFERAYIPEGQRY-FLQN 46


RESULT 14
STHO
somatotropin - horse
N;Alternate names: growth hormone
C;Species: Equus caballus (domestic horse)
C;Date: 13-Jul-1981 #sequence_revision 13-Jul-1981 #text_change 23-Aug-1996
C;Accession: A91772; A91395; A91383; A90240; A01514
R;Zakin, M.M.; Poskus, E.; Langton, A.A.; Ferrara, P.; Santome, J.A.; Dellacha, J.M.; Pa
Int. J. Pept. Protein Res. 8, 435-444, 1976
A;Title: Primary structure of equine growth hormone.
A;Reference number: A91772; MUID:77005410; PMID:965151
A;Accession: A91772
A;Molecule type: protein
A;Residues: 1-190 <ZAK>
R;Zakin, M.M.; Poskus, E.; Dellacha, J.M.; Paladini, A.C.; Santome, J.A.
FEBS Lett. 34, 353-355, 1973
A;Title: The amino acid sequence of equine growth hormone.
A;Reference number: A91395; MUID:74020362; PMID:4747849
A;Accession: A91395
A;Molecule type: protein
A;Residues: 1-190 <ZA2>
R;Zakin, M.M.; Poskus, E.; Dellacha, J.M.; Paladini, A.C.; Santome, J.A.
FEBS Lett. 25, 77-82, 1972
A;Title: Amino acid sequences around the cystine residues in equine growth hormone.
A;Reference number: A91383
A;Accession: A91383
A;Molecule type: protein
A;Residues: 42-69;157-190 <ZA3>
R;Oliver, L.; Hartree, A.S.
Biochem. J. 109, 19-24, 1968
A;Title: Amino acid sequences around the cystine residues in horse growth hormone.
A;Reference number: A90240; MUID:68368390; PMID:4876100
A;Accession: A90240
A;Molecule type: protein
A;Residues: 176-190 <OLI>
C;Superfamily: prolactin
C;Keywords: hormone; pituitary
F;52-163,180-188/Disulfide bonds: #status experimental

  Query Match             61.3%;  Score 159.5;  DB 1;  Length 190;
  Best Local Similarity   68.1%;  Pred. No. 1.7e-12;
  Matches   32;  Conservative    6;  Mismatches    8;  Indels    1;  Gaps    1;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQN 48
              || :|:|| || ||:|||  ||||| |||:||| ||||: |:|| :||
Db          1 FPAMPLSSLFANAVLRAQHLHQLAADTYKEFERAYIPEGQRYS-IQN 46


RESULT 15
JS0429
somatotropin - Arctic fox
N;Alternate names: growth hormone
C;Species: Alopex lagopus (Arctic fox)
C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 18-Jun-1993
C;Accession: JS0429
R;Li, C.H.; Izdebski, J.; Chung, D.
Int. J. Pept. Protein Res. 33, 70-72, 1989
A;Title: Primary structure of fox pituitary growth hormone.
A;Reference number: JS0429; MUID:89254275; PMID:2722401
A;Accession: JS0429
A;Molecule type: protein
A;Residues: 1-190 <LIC>
A;Note: residues 1-41 were sequenced; the sequence of residues 42-190 to is predicted fr
C;Superfamily: prolactin

  Query Match             61.3%;  Score 159.5;  DB 2;  Length 190;
  Best Local Similarity   68.1%;  Pred. No. 1.7e-12;
  Matches   32;  Conservative    6;  Mismatches    8;  Indels    1;  Gaps    1;

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Search completed: November  2, 2004, 20:22:13
Job time : 10.0406 secs
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GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: November 2, 2004, 20:20:47 ; Search time 36.7048 Seconds
(without alignments)
432.820 Million cell updates/sec

Title: US-10-054-873-1
Perfect score: 260
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....QEFEEAYIPKEQKYSFLQNP 49

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1370721 seqs, 324215800 residues

Total number of hits satisfying chosen parameters: 1370721

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
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2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
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20: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 260 | 100.0 | 49 | 13 | US-10-054-873-1 | Sequence 1, Appli |
| 2 | 260 | 100.0 | 92 | 13 | US-10-054-873-2 | Sequence 2, Appli |
| 3 | 260 | 100.0 | 107 | 13 | US-10-054-873-6 | Sequence 6, Appli |
| 4 | 260 | 100.0 | 134 | 10 | US-09-819-094-24 | Sequence 24, Appl |
| 5 | 260 | 100.0 | 134 | 15 | US-10-714-067-24 | Sequence 24, Appl |
| 6 | 260 | 100.0 | 150 | 13 | US-10-054-873-7 | Sequence 7, Appli |
| 7 | 260 | 100.0 | 188 | 15 | US-10-621-693-18 | Sequence 18, Appl |
| 8 | 260 | 100.0 | 192 | 10 | US-09-819-094-23 | Sequence 23, Appl |
| 9 | 260 | 100.0 | 192 | 15 | US-10-621-693-8 | Sequence 8, Appli |
| 10 | 260 | 100.0 | 192 | 15 | US-10-621-693-78 | Sequence 78, Appl |
| 11 | 260 | 100.0 | 192 | 15 | US-10-621-693-86 | Sequence 86, Appl |
| 12 | 260 | 100.0 | 192 | 15 | US-10-714-067-23 | Sequence 23, Appl |
| 13 | 260 | 100.0 | 193 | 15 | US-10-621-693-42 | Sequence 42, Appl |
| 14 | 260 | 100.0 | 206 | 15 | US-10-621-693-72 | Sequence 72, Appl |
| 15 | 260 | 100.0 | 391 | 15 | US-10-621-693-51 | Sequence 51, Appl |
| 16 | 260 | 100.0 | 574 | 15 | US-10-621-693-32 | Sequence 32, Appl |
| 17 | 260 | 100.0 | 576 | 15 | US-10-621-693-39 | Sequence 39, Appl |
| 18 | 260 | 100.0 | 589 | 15 | US-10-621-693-53 | Sequence 53, Appl |
| 19 | 260 | 100.0 | 786 | 15 | US-10-621-693-55 | Sequence 55, Appl |
| 20 | 260 | 100.0 | 810 | 15 | US-10-621-693-76 | Sequence 76, Appl |
| 21 | 255 | 98.1 | 191 | 10 | US-09-984-010-23 | Sequence 23, Appl |
| 22 | 255 | 98.1 | 191 | 14 | US-10-153-207-1 | Sequence 1, Appli |
| 23 | 255 | 98.1 | 191 | 14 | US-10-400-377-1 | Sequence 1, Appli |
| 24 | 255 | 98.1 | 191 | 14 | US-10-400-708-1 | Sequence 1, Appli |
| 25 | 255 | 98.1 | 191 | 14 | US-10-298-148-1 | Sequence 1, Appli |
| 26 | 255 | 98.1 | 191 | 15 | US-10-646-798-2 | Sequence 2, Appli |
| 27 | 255 | 98.1 | 191 | 15 | US-10-621-693-2 | Sequence 2, Appli |
| 28 | 255 | 98.1 | 191 | 15 | US-10-621-693-21 | Sequence 21, Appl |
| 29 | 255 | 98.1 | 191 | 15 | US-10-621-693-80 | Sequence 80, Appl |
| 30 | 255 | 98.1 | 191 | 15 | US-10-621-693-82 | Sequence 82, Appl |
| 31 | 255 | 98.1 | 191 | 15 | US-10-621-693-84 | Sequence 84, Appl |
| 32 | 255 | 98.1 | 191 | 16 | US-10-718-340-1 | Sequence 1, Appli |
| 33 | 255 | 98.1 | 191 | 16 | US-10-658-834A-850 | Sequence 850, App |
| 34 | 255 | 98.1 | 191 | 16 | US-10-658-834A-851 | Sequence 851, App |
| 35 | 255 | 98.1 | 191 | 16 | US-10-658-834A-852 | Sequence 852, App |
| 36 | 255 | 98.1 | 191 | 16 | US-10-658-834A-853 | Sequence 853, App |
| 37 | 255 | 98.1 | 191 | 16 | US-10-658-834A-854 | Sequence 854, App |
| 38 | 255 | 98.1 | 191 | 16 | US-10-658-834A-855 | Sequence 855, App |
| 39 | 255 | 98.1 | 191 | 16 | US-10-658-834A-856 | Sequence 856, App |
| 40 | 255 | 98.1 | 191 | 16 | US-10-658-834A-857 | Sequence 857, App |
| 41 | 255 | 98.1 | 191 | 16 | US-10-658-834A-858 | Sequence 858, App |
| 42 | 255 | 98.1 | 191 | 16 | US-10-658-834A-859 | Sequence 859, App |
| 43 | 255 | 98.1 | 191 | 16 | US-10-658-834A-860 | Sequence 860, App |
| 44 | 255 | 98.1 | 191 | 16 | US-10-658-834A-861 | Sequence 861, App |
| 45 | 255 | 98.1 | 191 | 16 | US-10-658-834A-862 | Sequence 862, App |

ALIGNMENTS

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RESULT 1
US-10-054-873-1
; Sequence 1, Application US/10054873
; Publication No. US20020164712A1
;  GENERAL INFORMATION:
;       APPLICANT: Gan, Zhong Ru
;       TITLE OF INVENTION: Chimeric Protein Containing an
;                           Intramolecular Chaperone-Like Sequence
;       NUMBER OF SEQUENCES: 7
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: Townsend and Townsend and Crew LLP
;            STREET: Two Embarcadero Center, Eighth Floor
;            CITY: San Francisco
;            STATE: California
;            COUNTRY: USA
;            ZIP: 94111-3834
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/054,873
;            FILING DATE: 22-Jan-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: WO PCT/CN98/00052
;            FILING DATE: 31-MAR-1998
;            APPLICATION NUMBER: US 09/423,100
;            FILING DATE: 11-DEC-2000
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Mycroft, Frank J
;            REGISTRATION NUMBER: 46,946
;            REFERENCE/DOCKET NUMBER: 020167-000130US
;  INFORMATION FOR SEQ ID NO: 1:
;       SEQUENCE CHARACTERISTICS:
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;           LENGTH: 49 amino acids
;           TYPE: amino acid
;           STRANDEDNESS: <Unknown>
;           TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-10-054-873-1

  Query Match             100.0%;  Score 260;  DB 13;  Length 49;
  Best Local Similarity   100.0%;  Pred. No. 9.9e-27;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 2
US-10-054-873-2
; Sequence 2, Application US/10054873
; Publication No. US20020164712A1
;   GENERAL INFORMATION:
;       APPLICANT: Gan, Zhong Ru
;       TITLE OF INVENTION: Chimeric Protein Containing an
;                           Intramolecular Chaperone-Like Sequence
;       NUMBER OF SEQUENCES: 7
;       CORRESPONDENCE ADDRESS:
;           ADDRESSEE: Townsend and Townsend and Crew LLP
;           STREET: Two Embarcadero Center, Eighth Floor
;           CITY: San Francisco
;           STATE: California
;           COUNTRY: USA
;           ZIP: 94111-3834
;       COMPUTER READABLE FORM:
;           MEDIUM TYPE: Floppy disk
;           COMPUTER: IBM PC compatible
;           OPERATING SYSTEM: PC-DOS/MS-DOS
;           SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;           APPLICATION NUMBER: US/10/054,873
;           FILING DATE: 22-Jan-2002
;           CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;           APPLICATION NUMBER: WO PCT/CN98/00052
;           FILING DATE: 31-MAR-1998
;           APPLICATION NUMBER: US 09/423,100
;           FILING DATE: 11-DEC-2000
;       ATTORNEY/AGENT INFORMATION:
;           NAME: Mycroft, Frank J
;           REGISTRATION NUMBER: 46,946
;           REFERENCE/DOCKET NUMBER: 020167-000130US
;   INFORMATION FOR SEQ ID NO: 2:
;       SEQUENCE CHARACTERISTICS:
;           LENGTH: 92 amino acids
;           TYPE: amino acid
;           STRANDEDNESS: <Unknown>
;           TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-054-873-2

  Query Match             100.0%;  Score 260;  DB 13;  Length 92;
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 3
US-10-054-873-6
; Sequence 6, Application US/10054873
; Publication No. US20020164712A1
;   GENERAL INFORMATION:
;       APPLICANT: Gan, Zhong Ru
;       TITLE OF INVENTION: Chimeric Protein Containing an
;                           Intramolecular Chaperone-Like Sequence
;       NUMBER OF SEQUENCES: 7
;       CORRESPONDENCE ADDRESS:
;           ADDRESSEE: Townsend and Townsend and Crew LLP
;           STREET: Two Embarcadero Center, Eighth Floor
;           CITY: San Francisco
;           STATE: California
;           COUNTRY: USA
;           ZIP: 94111-3834
;       COMPUTER READABLE FORM:
;           MEDIUM TYPE: Floppy disk
;           COMPUTER: IBM PC compatible
;           OPERATING SYSTEM: PC-DOS/MS-DOS
;           SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;           APPLICATION NUMBER: US/10/054,873
;           FILING DATE: 22-Jan-2002
;           CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;           APPLICATION NUMBER: WO PCT/CN98/00052
;           FILING DATE: 31-MAR-1998
;           APPLICATION NUMBER: US 09/423,100
;           FILING DATE: 11-DEC-2000
;       ATTORNEY/AGENT INFORMATION:
;           NAME: Mycroft, Frank J
;           REGISTRATION NUMBER: 46,946
;           REFERENCE/DOCKET NUMBER: 020167-000130US
;   INFORMATION FOR SEQ ID NO: 6:
;       SEQUENCE CHARACTERISTICS:
;           LENGTH: 107 amino acids
;           TYPE: amino acid
;           STRANDEDNESS: <Unknown>
;           TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 6:
US-10-054-873-6

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  Best Local Similarity   100.0%;  Pred. No. 2.5e-26;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 4
US-09-819-094-24
; Sequence 24, Application US/09819094
; Publication No. US20030186382A1
; GENERAL INFORMATION:
;  APPLICANT: Weiner, Richard I.
;  APPLICANT:  Martial, Joseph A.
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: No. US20030186382A1el Antiangiogenic Peptide Agents and Their
;  TITLE OF INVENTION:  Therapeutic and Diagnostic Use
;  FILE REFERENCE: UCSF-018/02US
;  CURRENT APPLICATION NUMBER: US/09/819,094
;  CURRENT FILING DATE:  2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 24
;   LENGTH: 134
;   TYPE: PRT
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;   ORGANISM: Homo sapiens
US-09-819-094-24

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RESULT 5
US-10-714-067-24
; Sequence 24, Application US/10714067
; Publication No. US20040077054A1
; GENERAL INFORMATION:
;  APPLICANT: Weiner, Richard I.
;  APPLICANT:  Martial, Joseph A.
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: Novel Antiangiogenic Peptide Agents and Their
;  TITLE OF INVENTION:  Therapeutic and Diagnostic Use
;  FILE REFERENCE: UCSF-018/02US
;  CURRENT APPLICATION NUMBER: US/10/714,067
;  CURRENT FILING DATE:  2003-11-14
;  PRIOR APPLICATION NUMBER: US/09/819,094
;  PRIOR FILING DATE: 2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 24
;   LENGTH: 134
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-714-067-24

  Query Match            100.0%;  Score 260;  DB 15;  Length 134;
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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 6
US-10-054-873-7
; Sequence 7, Application US/10054873
; Publication No. US20020164712A1
;   GENERAL INFORMATION:
;        APPLICANT: Gan, Zhong Ru
;        TITLE OF INVENTION: Chimeric Protein Containing an
;                            Intramolecular Chaperone-Like Sequence
;        NUMBER OF SEQUENCES: 7
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Townsend and Townsend and Crew LLP
;             STREET: Two Embarcadero Center, Eighth Floor
;             CITY: San Francisco
;             STATE: California
;             COUNTRY: USA
;             ZIP: 94111-3834
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.30
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/054,873
;             FILING DATE: 22-Jan-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: WO PCT/CN98/00052
;             FILING DATE: 31-MAR-1998
;             APPLICATION NUMBER: US 09/423,100
;             FILING DATE: 11-DEC-2000
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Mycroft, Frank J
;             REGISTRATION NUMBER: 46,946
;             REFERENCE/DOCKET NUMBER: 020167-000130US
;   INFORMATION FOR SEQ ID NO: 7:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 150 amino acids
;             TYPE: amino acid
;             STRANDEDNESS: <Unknown>
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 7:
US-10-054-873-7

  Query Match            100.0%;  Score 260;  DB 13;  Length 150;
  Best Local Similarity  100.0%;  Pred. No. 3.7e-26;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 7
US-10-621-693-18
; Sequence 18, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUEN
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 18
;   LENGTH: 188
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-18

  Query Match            100.0%;  Score 260;  DB 15;  Length 188;
  Best Local Similarity  100.0%;  Pred. No. 4.8e-26;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 8
US-09-819-094-23
; Sequence 23, Application US/09819094
; Publication No. US20030186382A1
; GENERAL INFORMATION:
;  APPLICANT: Weiner, Richard I.
;  APPLICANT:  Martial, Joseph A.
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: No. US20030186382A1el Antiangiogenic Peptide Agents and Their
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; TITLE OF INVENTION: Therapeutic and Diagnostic Use
; FILE REFERENCE: UCSF-018/02US
; CURRENT APPLICATION NUMBER: US/09/819,094
; CURRENT FILING DATE: 2001-03-27
; PRIOR APPLICATION NUMBER: 09/076,675
; PRIOR FILING DATE: 1998-05-12
; PRIOR APPLICATION NUMBER: 60/046,394
; PRIOR FILING DATE: 1997-05-12
; NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 23
; LENGTH: 192
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-819-094-23

Query Match 100.0%; Score 260; DB 10; Length 192;
Best Local Similarity 100.0%; Pred. No. 5e-26;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 9
US-10-621-693-8
; Sequence 8, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
; APPLICANT: Gentide Biopharmaceuticals, Inc.
; APPLICANT: Bussell, Stuart
; TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
; TITLE OF INVENTION: DIRECT FUSIONS OR WITH LINKERS
; FILE REFERENCE: GNT-00101.P.1-US
; CURRENT APPLICATION NUMBER: US/10/621,693
; CURRENT FILING DATE: 2003-07-16
; PRIOR APPLICATION NUMBER: US 60/396,466
; PRIOR FILING DATE: 2002-07-16
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 8
; LENGTH: 192
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic sequence
; FEATURE:
; NAME/KEY: mat_peptide
; LOCATION: (1)..()
US-10-621-693-8

Query Match 100.0%; Score 260; DB 15; Length 192;
Best Local Similarity 100.0%; Pred. No. 5e-26;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 10
US-10-621-693-78
; Sequence 78, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
; APPLICANT: Gentide Biopharmaceuticals, Inc.
; APPLICANT: Bussell, Stuart
; TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
; TITLE OF INVENTION: DIRECT FUSIONS OR WITH LINKERS
; FILE REFERENCE: GNT-00101.P.1-US
; CURRENT APPLICATION NUMBER: US/10/621,693
; CURRENT FILING DATE: 2003-07-16
; PRIOR APPLICATION NUMBER: US 60/396,466
; PRIOR FILING DATE: 2002-07-16
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 78
; LENGTH: 192
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic sequence
US-10-621-693-78

Query Match 100.0%; Score 260; DB 15; Length 192;
Best Local Similarity 100.0%; Pred. No. 5e-26;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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RESULT 11
US-10-621-693-86
; Sequence 86, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
; APPLICANT: Gentide Biopharmaceuticals, Inc.
; APPLICANT: Bussell, Stuart
; TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
; TITLE OF INVENTION: DIRECT FUSIONS OR WITH LINKERS
; FILE REFERENCE: GNT-00101.P.1-US
; CURRENT APPLICATION NUMBER: US/10/621,693
; CURRENT FILING DATE: 2003-07-16
; PRIOR APPLICATION NUMBER: US 60/396,466
; PRIOR FILING DATE: 2002-07-16
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 86
; LENGTH: 192
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic sequence
; FEATURE:
; NAME/KEY: MISC_FEATURE
; LOCATION: (2)..(192)
; OTHER INFORMATION: sequence is repeated N+2 times, where N is a positive whole numb
; FEATURE:
; NAME/KEY: mat_peptide
; LOCATION: (1)..()
US-10-621-693-86

Query Match 100.0%; Score 260; DB 15; Length 192;
Best Local Similarity 100.0%; Pred. No. 5e-26;
Matches 49; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49

RESULT 12
US-10-714-067-23
; Sequence 23, Application US/10714067
; Publication No. US20040077054A1
; GENERAL INFORMATION:
; APPLICANT: Weiner, Richard I.
; APPLICANT: Martial, Joseph A.
; APPLICANT: Struman, Ingrid
; APPLICANT: Taylor, Robert
; APPLICANT: Bentzien, Frauke
; TITLE OF INVENTION: Novel Antiangiogenic Peptide Agents and Their
; TITLE OF INVENTION: Therapeutic and Diagnostic Use
; FILE REFERENCE: UCSF-018/02US

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;  CURRENT APPLICATION NUMBER: US/10/714,067
;  CURRENT FILING DATE:  2003-11-14
;  PRIOR APPLICATION NUMBER: US/09/819,094
;  PRIOR FILING DATE: 2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 23
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-714-067-23

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  Best Local Similarity  100.0%;  Pred. No. 5e-26;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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RESULT 13
US-10-621-693-42
; Sequence 42, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 42
;   LENGTH: 193
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-42

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  Best Local Similarity  100.0%;  Pred. No. 5e-26;
  Matches   49;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 14
US-10-621-693-72
; Sequence 72, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 72
;   LENGTH: 206
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-72

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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


RESULT 15
US-10-621-693-51
; Sequence 51, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUEN
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 51
;   LENGTH: 391
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
;   FEATURE:
;   NAME/KEY: mat_peptide
;   LOCATION: (1)..()
US-10-621-693-51

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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49


Search completed: November  2, 2004, 20:59:19
Job time : 37.7048 secs
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GenCore version 5.1.6


OM protein - protein search, using sw model

Run on: November 2, 2004, 19:48:36 ; Search time 47.4631 Seconds
(without alignments)
594.006 Million cell updates/sec

Title: US-10-054-873-1
Perfect score: 260
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_02:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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|---|---|---|---|---|---|---|
| 1 | 255 | 98.1 | 217 | 1 | SOMA_HUMAN | P01241 homo sapien |
| 2 | 255 | 98.1 | 217 | 1 | SOMA_MACMU | P33093 macaca mula |
| 3 | 255 | 98.1 | 217 | 1 | SOMA_PANTR | P58756 pan troglod |
| 4 | 255 | 98.1 | 217 | 2 | Q6IYF0 | Q6iyf0 homo sapien |
| 5 | 255 | 98.1 | 217 | 2 | AAT11509 | Aat11509 homo sapi |
| 6 | 251 | 96.5 | 217 | 2 | Q6IYF1 | Q6iyf1 homo sapien |
| 7 | 251 | 96.5 | 217 | 2 | AAT11508 | Aat11508 homo sapi |
| 8 | 249 | 95.8 | 217 | 1 | SOMA_CALJA | Q9gmb3 callithrix |
| 9 | 249 | 95.8 | 217 | 1 | SOMA_SAIBB | P58343 saimiri bol |
| 10 | 249 | 95.8 | 217 | 2 | Q8WNE0 | Q8wne0 ateles geof |
| 11 | 236 | 90.8 | 217 | 1 | SOM2_PANTR | P58757 pan troglod |
| 12 | 228 | 87.7 | 217 | 1 | SOM2_HUMAN | P01242 homo sapien |
| 13 | 228 | 87.7 | 217 | 2 | Q6FH32 | Q6fh32 homo sapien |
| 14 | 228 | 87.7 | 217 | 2 | Q6FH54 | Q6fh54 homo sapien |
| 15 | 228 | 87.7 | 245 | 2 | O14644 | O14644 homo sapien |
| 16 | 215 | 82.7 | 184 | 2 | Q866T9 | Q866t9 pan troglod |
| 17 | 213 | 81.9 | 212 | 2 | Q07368 | Q07368 macaca mula |
| 18 | 213 | 81.9 | 217 | 2 | Q07367 | Q07367 macaca mula |
| 19 | 205 | 78.8 | 217 | 2 | Q866U1 | Q866u1 pan troglod |
| 20 | 201 | 77.3 | 217 | 2 | Q07369 | Q07369 macaca mula |
| 21 | 201 | 77.3 | 217 | 2 | Q866T8 | Q866t8 pan troglod |
| 22 | 199 | 76.5 | 217 | 1 | SOM2_MACMU | Q07370 macaca mula |
| 23 | 197 | 75.8 | 217 | 1 | CSH_HUMAN | P01243 homo sapien |
| 24 | 197 | 75.8 | 217 | 2 | Q6PF11 | Q6pf11 homo sapien |
| 25 | 197 | 75.8 | 217 | 2 | AAH57768 | Aah57768 homo sapi |
| 26 | 197 | 75.8 | 217 | 2 | AAP35572 | Aap35572 homo sapi |
| 27 | 197 | 75.8 | 217 | 2 | AAH62775 | Aah62775 homo sapi |
| 28 | 195 | 75.0 | 217 | 2 | Q8WND9 | Q8wnd9 ateles geof |
| 29 | 186 | 71.5 | 217 | 2 | Q866U0 | Q866u0 pan troglod |
| 30 | 170 | 65.4 | 217 | 2 | Q8MI74 | Q8mi74 callithrix |
| 31 | 164 | 63.1 | 202 | 2 | AAH62475 | Aah62475 homo sapi |
| 32 | 161.5 | 62.1 | 216 | 1 | SOMA_MOUSE | P06880 mus musculu |
| 33 | 161.5 | 62.1 | 216 | 2 | BAB31932 | Bab31932 mus muscu |
| 34 | 161.5 | 62.1 | 216 | 2 | BAB31933 | Bab31933 mus muscu |
| 35 | 161.5 | 62.1 | 216 | 2 | BAB31935 | Bab31935 mus muscu |
| 36 | 161.5 | 62.1 | 216 | 2 | BAB31937 | Bab31937 mus muscu |
| 37 | 161.5 | 62.1 | 216 | 2 | BAC27096 | Bac27096 mus muscu |
| 38 | 160.5 | 61.7 | 190 | 1 | SOMA_BALBO | P33092 balaenopter |
| 39 | 160.5 | 61.7 | 216 | 2 | O70615 | O70615 spalax leuc |
| 40 | 159.5 | 61.3 | 52 | 2 | Q9TV91 | Q9tv91 equus cabal |
| 41 | 159.5 | 61.3 | 190 | 1 | SOMA_LOXAF | P20392 loxodonta a |
| 42 | 159.5 | 61.3 | 190 | 1 | SOMA_VULVU | P10766 vulpes vulp |
| 43 | 159.5 | 61.3 | 216 | 1 | SOMA_CANFA | P33711 canis famil |
| 44 | 159.5 | 61.3 | 216 | 1 | SOMA_FELCA | P46404 felis silve |
| 45 | 159.5 | 61.3 | 216 | 1 | SOMA_HORSE | P01245 equus cabal |

ALIGNMENTS

RESULT 1
SOMA_HUMAN
ID SOMA_HUMAN STANDARD; PRT; 217 AA.
AC P01241; Q14405; Q16631; Q9HBZ1; Q9UMJ7; Q9UNL5;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 01-OCT-2004 (Rel. 45, Last annotation update)
DE Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE hormone) (Growth hormone 1).
GN Name=GH1;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=80034477; PubMed=386281;
RA Roskam W., Rougeon F.;
RT "Molecular cloning and nucleotide sequence of the human growth hormone
RT structural gene.";
RL Nucleic Acids Res. 7:305-320(1979).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=79203293; PubMed=377496;
RA Martial J.A., Hallewell R.A., Baxter J.D., Goodman H.M.;
RT "Human growth hormone: complementary DNA cloning and expression in
RT bacteria.";
RL Science 205:602-607(1979).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND POSSIBLE ALTERNATIVE SPLICING.
RX MEDLINE=82014939; PubMed=6269091;
RA Denoto F.M., Moore D.D., Goodman H.M.;
RT "Human growth hormone DNA sequence and mRNA structure: possible
RT alternative splicing.";
RL Nucleic Acids Res. 9:3719-3730(1981).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RT "The human growth hormone gene family: nucleotide sequences show
RT recent divergence and predict a new polypeptide hormone.";
RL DNA 1:239-249(1982).
RN [5]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinas R.E.,
RA Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and
RT evolution.";
RL Genomics 4:479-497(1989).
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM 3).
RC TISSUE=Pituitary;
RA Gu J., Huang Q.-H., Li N., Xu S.-H., Han Z.-G., Fu G., Chen Z.;

RT "A novel gene expressed in human pituitary.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [7]
RP SEQUENCE FROM N.A. (ISOFORM 4).
RC TISSUE=Pituitary;
RX MEDLINE=20402571; PubMed=10931946;
RA Hu R.-M., Han Z.-G., Song H.-D., Peng Y.-D., Huang Q.-H., Ren S.-X.,
RA Gu Y.-J., Huang C.-H., Li Y.-B., Jiang C.-L., Fu G., Zhang Q.-H.,
RA Gu B.-W., Dai M., Mao Y.-F., Gao G.-F., Rong R., Ye M., Zhou J.,
RA Xu S.-H., Gu J., Shi J.-X., Jin W.-R., Zhang C.-K., Wu T.-M.,
RA Huang G.-Y., Chen Z., Chen M.-D., Chen J.-L.;
RT "Gene expression profiling in the human hypothalamus-pituitary-adrenal
RT axis and full-length cDNA cloning.";
RL Proc. Natl. Acad. Sci. U.S.A. 97:9543-9548(2000).
RN [8]
RP SEQUENCE OF 1-26 FROM N.A.
RX MEDLINE=86137393; PubMed=3912261;
RA Gray G.L., Baldridge J.S., McKeown K.S., Heyneker H.L., Chang C.N.;
RT "Periplasmic production of correctly processed human growth hormone in
RT Escherichia coli: natural and bacterial signal sequences are
RT interchangeable.";
RL Gene 39:247-254(1985).
RN [9]
RP SEQUENCE OF 27-217.
RX MEDLINE=69289202; PubMed=5810834;
RA Li C.H., Dixon J.S., Liu W.-K.;
RT "Human pituitary growth hormone. XIX. The primary structure of the
RT hormone.";
RL Arch. Biochem. Biophys. 133:70-91(1969).
RN [10]
RP SEQUENCE OF 27-217, AND REVISIONS.
RX MEDLINE=72143935; PubMed=5144027;
RA Li C.H., Dixon J.S.;
RT "Human pituitary growth hormone. 32. The primary structure of the
RT hormone: revision.";
RL Arch. Biochem. Biophys. 146:233-236(1971).
RN [11]
RP REVISION.
RX MEDLINE=73092028; PubMed=4675454;
RA Bewley T.A., Dixon J.S., Li C.H.;
RT "Sequence comparison of human pituitary growth hormone, human
RT chorionic somatomammotropin, and ovine pituitary growth and lactogenic
RT hormones.";
RL Int. J. Pept. Protein Res. 4:281-287(1972).
RN [12]
RP SEQUENCE OF 27-61 AND 102-124.
RX MEDLINE=71139765; PubMed=5279046;
RA Niall H.D.;
RT "Revised primary structure for human growth hormone.";
RL Nature New Biol. 230:90-91(1971).
RN [13]
RP REVISIONS TO 119-120 AND 157-159.
RX MEDLINE=71153968; PubMed=5279528;
RA Niall H.D., Hogan M.L., Sauer R., Rosenblum I.Y., Greenwood F.C.;
RT "Sequences of pituitary and placental lactogenic and growth hormones:
RT evolution from a primordial peptide by gene reduplication.";
RL Proc. Natl. Acad. Sci. U.S.A. 68:866-869(1971).
RN [14]
RP REVISION.
RA Niall H.D.;
RT "The chemistry of the human lactogenic hormones.";
RL (In) Griffiths K. (eds.);
RL Prolactin and carcinogenesis, Proc. fourth tenovus workshop prolactin,
RL pp.13-20, Alpha Omega Alpha Press, Cardiff (1972).
RN [15]
RP SEQUENCE OF 27-79 (ISOFORM 2).
RX MEDLINE=81117361; PubMed=7462247;
RA Chapman G.E., Rogers K.M., Brittain T., Bradshaw R.A., Bates O.J.,
RA Turner C., Cary P.D., Crane-Robinson C.;
RT "The 20,000 molecular weight variant of human growth hormone.
RT Preparation and some physical and chemical properties.";
RL J. Biol. Chem. 256:2395-2401(1981).
RN [16]
RP SEQUENCE OF 46-80 (ISOFORM 2).
RX MEDLINE=80130196; PubMed=7356479;
RA Lewis U.J., Bonewald L.F., Lewis L.J.;
RT "The 20,000-dalton variant of human growth hormone: location of the
RT amino acid deletions.";
RL Biochem. Biophys. Res. Commun. 92:511-516(1980).
RN [17]
RP DEAMIDATION OF GLN-163 AND ASN-178.
RX MEDLINE=82052997; PubMed=7028740;
RA Lewis U.J., Singh R.N., Bonewald L.F., Seavey B.K.;
RT "Altered proteolytic cleavage of human growth hormone as a result of
RT deamidation.";
RL J. Biol. Chem. 256:11645-11650(1981).
RN [18]
RP PHOSPHORYLATION SITES SER-132 AND SER-176.
RC TISSUE=Pituitary;
RX PubMed=14997482; DOI=10.1002/pmic.200300584;
RA Giorgianni F., Beranova-Giorgianni S., Desiderio D.M.;
RT "Identification and characterization of phosphorylated proteins in the
RT human pituitary.";
RL Proteomics 4:587-598(2004).
RN [19]
RP REVIEW.
RX MEDLINE=99321812; PubMed=10393484;
RA Baumann G.;
RT "Growth hormone heterogeneity in human pituitary and plasma.";
RL Horm. Res. 51 Suppl. 1:2-6(1999).
RN [20]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=88190073; PubMed=3447173;
RA Cohen F.E., Kuntz I.D.;
RT "Prediction of the three-dimensional structure of human growth
RT hormone.";
RL Proteins 2:162-166(1987).
RN [21]
RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
RX MEDLINE=92196577; PubMed=1549776;
RA de Vos A.M., Ultsch M., Kossiakoff A.A.;
RT "Human growth hormone and extracellular domain of its receptor:
RT crystal structure of the complex.";
RL Science 255:306-312(1992).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=95075462; PubMed=7984244;
RA Somers W., Ultsch M., de Vos A.M., Kossiakoff A.A.;
RT "The X-ray structure of a growth hormone-prolactin receptor complex.";
RL Nature 372:478-481(1994).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
RA Chantalat L., Chirgadze N.Y., Jones N., Korber F., Navaza J.,
RA Pavlovsk A.G., Wlodawer A.;
RT "The crystal-structure of wild-type growth-hormone at 2.5-A
RT resolution.";
RL Protein Pept. Lett. 2:333-340(1995).
RN [24]
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
RX MEDLINE=97113023; PubMed=8943276;
RA Sundstroem M., Lundqvist T., Roedin J., Giebel L.B., Milligan D.,
RA Norstedt G.;
RT "Crystal structure of an antagonist mutant of human growth hormone,
RT G120R, in complex with its receptor at 2.9-A resolution.";
RL J. Biol. Chem. 271:32197-32203(1996).
RN [25]
RP VARIANT KOWARSKI SYNDROME CYS-103.
RX MEDLINE=96150232; PubMed=8552145;
RA Takahashi Y., Kaji H., Okimura Y., Goji K., Abe H., Chihara K.;
RT "Short stature caused by a mutant growth hormone.";
RL N. Engl. J. Med. 334:432-436(1996).
RN [26]
RP ERRATUM.
RA Takahashi Y., Kaji H., Okimura Y., Goji K., Abe H., Chihara K.;
RL N. Engl. J. Med. 334:1207-1207(1996).
RN [27]

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RP   VARIANT KOWARSKI SYNDROME GLY-138.
RX   MEDLINE=97426478; PubMed=9276733;

  Query Match             98.1%;  Score 255;  DB 1;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-23;
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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 2
SOMA_MACMU
ID   SOMA_MACMU     STANDARD;      PRT;   217 AA.
AC   P33093;
DT   01-OCT-1993 (Rel. 27, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE   hormone) (Growth hormone 1).
GN   Name=GH1;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
OC   Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=94008724; PubMed=8404617;
RA   Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT   "Cloning of four growth hormone/chorionic somatomammotropin-related
RT   complementary deoxyribonucleic acids differentially expressed during
RT   pregnancy in the rhesus monkey placenta.";
RL   Endocrinology 133:1744-1752(1993).
RN   [2]
RP   SEQUENCE OF 27-217.
RX   MEDLINE=86129460; PubMed=3080959;
RA   Li C.H., Chung D., Lahm H.W., Stein S.;
RT   "The primary structure of monkey pituitary growth hormone.";
RL   Arch. Biochem. Biophys. 245:287-291(1986).
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; L16556; AAA18842.1; -.
DR   PIR; I67410; I67410.
DR   HSSP; P01241; 1AXI.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Direct protein sequencing; Hormone; Pituitary; Signal.
FT   SIGNAL        1     26
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
FT   CONFLICT    100    100       E -> Q (in Ref. 2).
FT   CONFLICT    179    179       N -> D (in Ref. 2).
SQ   SEQUENCE   217 AA;  24913 MW;  2C5180341EEC46D0 CRC64;

  Query Match             98.1%;  Score 255;  DB 1;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-23;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 3
SOMA_PANTR
ID   SOMA_PANTR     STANDARD;      PRT;   217 AA.
AC   P58756;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE   hormone) (Growth hormone 1).
GN   Name=GH1;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT   "Independent duplication of the growth hormone gene in three
RT   Anthropoidean lineages.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF374232; AAL72284.1; -.
DR   HSSP; P01241; 1HWG.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Pituitary; Signal.
FT   SIGNAL        1     26       By similarity.
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
SQ   SEQUENCE   217 AA;  24843 MW;  FEA295EDE0518674 CRC64;

  Query Match             98.1%;  Score 255;  DB 1;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-23;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74
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RESULT 4
Q6IYF0
ID   Q6IYF0      PRELIMINARY;      PRT;   217 AA.
AC   Q6IYF0;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 2.
GN   Name=GH1;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY613432; AAT11509.1; -.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ   SEQUENCE   217 AA;  24946 MW;  72D079DF52BDB51A CRC64;

  Query Match             98.1%;  Score 255;  DB 2;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-23;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 5
AAT11509
ID   AAT11509    PRELIMINARY;      PRT;   217 AA.
AC   AAT11509;
DT   20-MAY-2004 (TrEMBLrel. 27, Created)
DT   20-MAY-2004 (TrEMBLrel. 27, Last sequence update)
DT   20-MAY-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 2.
GN   GH1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RT   "New allelic variant (G152R) in growth hormone (GH) gene associated
RT   with idiopathic short stature.";
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY613432; AAT11509.1; -.
SQ   SEQUENCE   217 AA;  24946 MW;  72D079DF52BDB51A CRC64;

  Query Match             98.1%;  Score 255;  DB 2;  Length 217;
  Best Local Similarity   100.0%;  Pred. No. 1.2e-23;
  Matches   48;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||||||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 6
Q6IYF1
ID   Q6IYF1      PRELIMINARY;      PRT;   217 AA.
AC   Q6IYF1;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 1.
GN   Name=GH1;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY613431; AAT11508.1; -.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ   SEQUENCE   217 AA;  24875 MW;  12DB1B92F63934D8 CRC64;

  Query Match             96.5%;  Score 251;  DB 2;  Length 217;
  Best Local Similarity   97.9%;  Pred. No. 3.9e-23;
  Matches   47;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||| ||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNVMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 7
AAT11508
ID   AAT11508    PRELIMINARY;      PRT;   217 AA.
AC   AAT11508;
DT   20-MAY-2004 (TrEMBLrel. 27, Created)
DT   20-MAY-2004 (TrEMBLrel. 27, Last sequence update)
DT   20-MAY-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 1.
GN   GH1.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RT   "New allelic variant (A39V) in growth hormone (GH) gene associated
RT   with GH deficiency in heterozygous state.";
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AY613431; AAT11508.1; -.
SQ   SEQUENCE   217 AA;  24875 MW;  12DB1B92F63934D8 CRC64;

  Query Match             96.5%;  Score 251;  DB 2;  Length 217;
  Best Local Similarity   97.9%;  Pred. No. 3.9e-23;
  Matches   47;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||| ||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLFDNVMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 8
SOMA_CALJA
ID   SOMA_CALJA      STANDARD;      PRT;   217 AA.
AC   Q9GMB3;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Somatotropin precursor (Growth hormone).
GN   Name=GH1;
OS   Callithrix jacchus (Common marmoset).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix.
OX   NCBI_TaxID=9483;
RN   [1]
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RP   SEQUENCE FROM N.A.
RA   Wallis O.C., Wallis M.;
RT   "Cloning and characterisation of a putative growth hormone encoding
RT   gene from the marmoset (Callithrix jacchus).";
RL   Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AJ297563; CAC03481.1; -.
DR   HSSP; P01241; 1A22.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Pituitary; Signal.
FT   SIGNAL        1     26       By similarity.
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
SQ   SEQUENCE   217 AA;  24959 MW;  E102151A12CE6192 CRC64;

  Query Match             95.8%;  Score 249;  DB 1;  Length 217;
  Best Local Similarity   97.9%;  Pred. No. 6.9e-23;
  Matches   47;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||| |||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLLDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 9
SOMA_SAIBB
ID   SOMA_SAIBB     STANDARD;      PRT;   217 AA.
AC   P58343;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Somatotropin precursor (Growth hormone).
GN   Name=GH1;
OS   Saimiri boliviensis boliviensis (Bolivian squirrel monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.
OX   NCBI_TaxID=39432;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=21265430; PubMed=11371582;
RA   Liu J.C., Makova K.D., Adkins R.M., Gibson S., Li W.H.;
RT   "Episodic evolution of growth hormone in primates and emergence of the
RT   species specificity of human growth hormone receptor.";
RL   Mol. Biol. Evol. 18:945-953(2001).
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF339060; AAK62287.1; -.
DR   HSSP; P01241; 1A22.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Pituitary; Signal.
FT   SIGNAL        1     26       By similarity.
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
SQ   SEQUENCE   217 AA;  24864 MW;  9515289992C529F7 CRC64;

  Query Match             95.8%;  Score 249;  DB 1;  Length 217;
  Best Local Similarity   97.9%;  Pred. No. 6.9e-23;
  Matches   47;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||| |||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLLDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 10
Q8WNE0
ID   Q8WNE0      PRELIMINARY;      PRT;   217 AA.
AC   Q8WNE0;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Growth hormone.
GN   Name=GH-N;
OS   Ateles geoffroyi (Black-handed spider monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Atelinae; Ateles.
OX   NCBI_TaxID=9509;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AF374234; AAL72286.1; -.
DR   HSSP; P01241; 1A22.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ   SEQUENCE   217 AA;  24894 MW;  425829FF41EEAAB6 CRC64;

  Query Match             95.8%;  Score 249;  DB 2;  Length 217;
  Best Local Similarity   97.9%;  Pred. No. 6.9e-23;
  Matches   47;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              ||||||||| |||||||||||||||||||||||||||||||||||||||
Db         27 FPTIPLSRLLDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 74


RESULT 11
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```
SOM2_PANTR
ID   SOM2_PANTR     STANDARD;      PRT;   217 AA.
AC   P58757;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Growth hormone variant precursor (GH-V) (Placenta-specific growth
DE   hormone) (Growth hormone 2).
GN   Name=GH2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT   "Independent duplication of the growth hormone gene in three
RT   Anthropoidean lineages.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Expressed in the placenta.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; AF374233; AAL72285.1; -.
DR   HSSP; P01241; 1A22.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Glycoprotein; Hormone; Placenta; Signal.
FT   SIGNAL        1     26       By similarity.
FT   CHAIN        27    217       Growth hormone variant.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
SQ   SEQUENCE   217 AA;  24990 MW;  1592A429075677DE CRC64;

  Query Match             90.8%;  Score 236;  DB 1;  Length 217;
  Best Local Similarity   93.8%;  Pred. No. 2.9e-21;
  Matches   45;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||||||:|||:|||||||||| ||||||||||
Db         27 FPTIPLSRLFDNAMLRAHRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74


RESULT 12
SOM2_HUMAN
ID   SOM2_HUMAN     STANDARD;      PRT;   217 AA.
AC   P01242; P09587;
DT   21-JUL-1986 (Rel. 01, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   05-JUL-2004 (Rel. 44, Last annotation update)
DE   Growth hormone variant precursor (GH-V) (Placenta-specific growth
DE   hormone) (Growth hormone 2).
GN   Name=GH2;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=83182010; PubMed=7169009;
RA   Seeburg P.H.;
RT   "The human growth hormone gene family: nucleotide sequences show
RT   recent divergence and predict a new polypeptide hormone.";
RL   DNA 1:239-249(1982).
RN   [2]
RP   SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX   MEDLINE=88243769; PubMed=3379057;
RA   Cooke N.E., Ray J., Emery J.G., Liebhaber S.A.;
RT   "Two distinct species of human growth hormone-variant mRNA in the
RT   human placenta predict the expression of novel growth hormone
RT   proteins.";
RL   J. Biol. Chem. 263:9001-9006(1988).
RN   [3]
RP   SEQUENCE FROM N.A. (ISOFORM 1).
RX   MEDLINE=89024984; PubMed=2460050;
RA   Igout A., Scippo M.L., Frankenne F., Hennen G.;
RT   "Cloning and nucleotide sequence of placental hGH-V cDNA.";
RL   Arch. Int. Physiol. Biochim. 96:63-67(1988).
RN   [4]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=89307277; PubMed=2744760;
RA   Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinas R.E.,
RA   Seeburg P.H.;
RT   "The human growth hormone locus: nucleotide sequence, biology, and
RT   evolution.";
RL   Genomics 4:479-497(1989).
RN   [5]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Placenta;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [6]
RP   REVIEW.
RX   MEDLINE=99321812; PubMed=10393484;
RA   Baumann G.;
RT   "Growth hormone heterogeneity in human pituitary and plasma.";
RL   Horm. Res. 51 Suppl. 1:2-6(1999).
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues.
CC   -!- SUBUNIT: Monomer, dimer, trimer, tetramer and pentamer, disulfide-
CC       linked or non-covalently associated, in homopolymeric and
CC       heteropolymeric combinations. Can also form a complex either with
CC       GHBP or with the alpha2-macroglobulin complex.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS:
```

```
CC       Event=Alternative splicing; Named isoforms=2;
CC       Name=1; Synonyms=GH-V1;
CC         IsoId=P01242-1; Sequence=Displayed;
CC       Name=2; Synonyms=GH-V2;
CC         IsoId=P01242-2; Sequence=VSP_006203;
CC         Note=No experimental confirmation available;
CC   -!- TISSUE SPECIFICITY: Expressed in the placenta.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
CC   modified and this statement is not removed. Usage by and for commercial
CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   ---------------------------------------------------------------------
DR   EMBL; K00470; AAA98619.1; -.
DR   EMBL; J03756; AAB59547.1; -.
DR   EMBL; J03756; AAB59548.1; -.
DR   EMBL; M38451; AAA35891.1; -.
DR   EMBL; J03071; AAA52552.1; -.
DR   EMBL; BC020760; AAH20760.1; -.
DR   PIR; A28072; STHUV2.
DR   PIR; D32435; STHUV.
DR   HSSP; P01241; 1A22.
DR   Genew; HGNC:4262; GH2.
DR   MIM; 139240; -.
DR   GO; GO:0005179; F:hormone activity; TAS.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Alternative splicing; Glycoprotein; Hormone; Placenta; Polymorphism;
KW   Signal.
FT   SIGNAL        1     26
FT   CHAIN        27    217       Growth hormone variant.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
FT   CARBOHYD    166    166       N-linked (GlcNAc. . .) (Potential).
FT   VARSPLIC    153    217       RLEDGSPRTGQIFNQSYSKFDTKSHNDDALLKNYGLLYCFR
FT                                KDMDKVETFLRIVQCRSVEGSCGF -> VRVAPGIPNPGAP
FT                                LASRDWGEKHCCPLFSSQALTQENSPYSSFPLVNPPGLSLQ
FT                                PGGEGGKWMNERGREQCPSAWPLLLFLHFAEAGRWQPPDWA
FT                                DLQSVLQQV (in isoform 2).
FT                                /FTId=VSP_006203.
FT   VARIANT      90     90       R -> W (in dbSNP:5389).
FT                                /FTId=VAR_014591.
FT   CONFLICT    109    109       I -> T (in Ref. 2).
SQ   SEQUENCE   217 AA;  24999 MW;  7B9324698E822F96 CRC64;

  Query Match             87.7%;  Score 228;  DB 1;  Length 217;
  Best Local Similarity   91.7%;  Pred. No. 2.9e-20;
  Matches   44;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||| ||:|||:|||||||||| ||||||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74


RESULT 13
Q6FH32
ID   Q6FH32      PRELIMINARY;      PRT;   217 AA.
AC   Q6FH32;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   GH2 protein (Fragment).
GN   Name=GH2;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Halleck A., Ebert L., Mkoundinya M., Schick M., Eisenstein S.,
RA   Neubert P., Kstrang K., Schatten R., Shen B., Henze S., Mar W.,
RA   Korn B., Zuo D., Hu Y., LaBaer J.;
RL   Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; CR541924; CAG46722.1; -.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
FT   NON_TER     217    217
SQ   SEQUENCE   217 AA;  25010 MW;  075C0EF63C15AAF5 CRC64;

  Query Match             87.7%;  Score 228;  DB 2;  Length 217;
  Best Local Similarity   91.7%;  Pred. No. 2.9e-20;
  Matches   44;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||| ||:|||:|||||||||| ||||||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74


RESULT 14
Q6FH54
ID   Q6FH54      PRELIMINARY;      PRT;   217 AA.
AC   Q6FH54;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   GH2 protein.
GN   Name=GH2;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Halleck A., Ebert L., Mkoundinya M., Schick M., Eisenstein S.,
RA   Neubert P., Kstrang K., Schatten R., Shen B., Henze S., Mar W.,
RA   Korn B., Zuo D., Hu Y., LaBaer J.;
RL   Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; CR541902; CAG46700.1; -.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ   SEQUENCE   217 AA;  25001 MW;  F24C05312EB37988 CRC64;

  Query Match             87.7%;  Score 228;  DB 2;  Length 217;
  Best Local Similarity   91.7%;  Pred. No. 2.9e-20;
  Matches   44;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||| ||:|||:|||||||||| ||||||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74


RESULT 15
O14644
ID   O14644      PRELIMINARY;      PRT;   245 AA.
AC   O14644;
DT   01-JAN-1998 (TrEMBLrel. 05, Created)
DT   01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Placental growth hormone isoform hGH-V3 precursor.
GN   Name=hGH-V;
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OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Full-term placenta;
RX   MEDLINE=98373737; PubMed=9709963;
RA   Boguszewski C.L., Svensson P.A., Jansson T., Clark R.,
RA   Carlsson L.M.S., Carlsson B.;
RT   "Cloning of two novel growth hormone transcripts expressed in human
RT   placenta.";
RL   J. Clin. Endocrinol. Metab. 83:2878-2885(1998).
DR   EMBL; AF006061; AAB71829.1; -.
DR   HSSP; P01241; 1A22.
DR   GO; GO:0005576; C:extracellular; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR009079; 4_helix_cytokine.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
KW   Signal.
FT   SIGNAL        1     26       Potential.
SQ   SEQUENCE   245 AA;  27101 MW;  14CC7F8CD75D91C8 CRC64;

  Query Match             87.7%;  Score 228;  DB 2;  Length 245;
  Best Local Similarity   91.7%;  Pred. No. 3.3e-20;
  Matches   44;  Conservative    2;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNP 49
              |||||||||||||||| ||:|||:|||||||||| ||||||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNP 74


Search completed: November  2, 2004, 20:20:28
Job time : 48.4631 secs
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